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21. Experimental Methods to Master's Thesis	
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25. Inorganic Polymers, Clusters and Organometallics	
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28. Mechanisms of Inorganic Reactions.	
29. Medicinal chemistry	
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32. Organic synthesis	
33. Personality Development and Key Competences for Success on a Labour Market	
34. Pharmacology I	
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36. Porous materials and their applications	
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38. Quantum Chemistry	
39. Seaside Aerobic Exercise	
40. Selected Topics in Inorganic Chemistry	
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47. Solid State Chemistry	
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61. Vibrational and electronic spectroscopy	
62. Winter Ski Training Course.	
C C	

University: P. J. Ša	fárik Universi	ity in Košice			
Faculty: Faculty of	Science				
Course ID: ÚCHV BAP/15	Course na Chemistry	me: Advanced I	Practical from C	oordination and E	Bioinorganic
Course type, scope Course type: Prace Recommended co Per week: 2 Per s Course method: 1	etice ourse-load (ho tudy period:	ours):			
Number of ECTS	credits: 3				
Recommended ser	nester/trimes	ter of the cours	e: 1.		
Course level: II.					
Prerequisities:					
Conditions for cou	irse completio	on:			
Learning outcome	s:				
Brief outline of the	e course:				
Recommended lite	erature:				
Course language:					
Notes:					
Course assessmen Total number of as	-	ts: 27			
А	В	С	D	E	FX
66.67	22.22	11.11	0.0	0.0	0.0
Provides: doc. RN Miroslav Almáši, P		rgová, Ph.D., pr	of. RNDr. Vladi	mír Zeleňák, DrS	c., RNDr.
Date of last modif	cation: 03.05	.2015			
Approved: prof. R	NDr. Juraj Čei	rnák, DrSc.			

University: P. J. Š	afárik Univers	ity in Košice			
Faculty: Faculty o	of Science				
Course ID: KFaD AFS/05	F/ Course na	me: Ancient Phi	losophy and Pre	esent Times	
Course type, scop Course type: Pra Recommended c Per week: 2 Per Course method:	ictice course-load (hi study period:	ours):			
Number of ECTS	credits: 2				
Recommended se	mester/trimes	ter of the cours	e: 2.		
Course level: II.					
Prerequisities:					
Conditions for co	urse completi	on:			
Learning outcom	es:				
Brief outline of th	e course:				
Recommended lit	erature:				
Course language:					
Notes:					
Course assessmen Total number of as		ts: 31			
A	В	С	D	E	FX
80.65	6.45	6.45	0.0	6.45	0.0
Provides: Doc. Ph	Dr. Peter Nezr	ník, CSc.			
Date of last modif	fication: 12.02	.2020			
Approved: prof. R	RNDr. Juraj Če	rnák, DrSc.		_	

University: P	J	Šafárik	University in Koš	ice
University. 1.	J.	Salarik	Oniversity in Kos	100

Faculty: Faculty of Science

Course ID: ÚCHV/ **Course name:** Bioanalytical Chemistry BACH1/03

Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14

Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Written test

Oral examination

Learning outcomes:

Theoretical knowledge and practical experience regarding application of analytical chemistry and analytical methods to laboratory medicine.

Brief outline of the course:

Introduction to Bioanalytical Chemistry, biological samples classification. Factors affecting analytes in biological samples. Collection, transport and storage of biological samples. Selected procedures of sample pretreatment Control and management of quality in clinical laboratory. Enzymes in bioanalysis. Mechanism of enzyme catalysis. Enzymes like analytes and analytical reagents. Moderators of enzyme activity. Introduction to Immunochemical methods, Precipitation and Aglutination methods. Immunodiffusional methods. Radioimmunoanalytic methods (RIA). Nonisotopic methods (EIA, ELISA, LIA, FIA). Investigative procedures in medical microbiology. Principles miniaturization of analytical procedures in clinical chemistry, microchips, nanochips, sensors and biosensors.

Recommended literature:

1. Mikkelsen, S. R., Cortón, E.: Bioanalytical Chemistry, Wiley, 2004.

Wilson, I.: Bioanalytical Separations 4, (Handbook of Analytical Separations), Elsevier, 2003.
 Suelter, C. H., Kricka, L. J.: Methods of Biochemical Analysis, Vol.37, Bioanalytical

Instrumentation, Wiley, 1994.

4. Rodriguez-Diaz, R., Wehr, T., Tuck, S.: Analytical Techniques for Biopharmaceutical Development, Marcell Dekker, 2005.

Course language:

Notes:

Course assessment Total number of assessed students: 93											
А	В	С	D	Е	FX						
33.33 37.63 18.28 9.68 1.08 0.0											
Provides: doc. RNDr. Katarína Reiffová, PhD.											
Date of last modification: 03.05.2015											
Approved: prof	. RNDr. Juraj Če	rnák, DrSc.			Approved: prof. RNDr. Juraj Černák, DrSc.						

	CU	URSE INFORM	IATION LET I	LK	
University: P. J. Šafa	árik Univers	ity in Košice			
Faculty: Faculty of S	Science				
Course ID: ÚCHV/ BCM/04	Course na	me: Biochemistr	y of Microorga	nisms	
Course type, scope a Course type: Lectu Recommended cou Per week: 2 / 2 Per Course method: pr	re / Practice rse-load (h study peri	ours):			
Number of ECTS c	redits: 6				
Recommended sem	ester/trimes	ster of the course	:: 3.		
Course level: II.					
Prerequisities:	_				
Conditions for cour 2 tests test	se completi	on:			
Learning outcomes: The aim of biocher microorganisms. Brief outline of the	nistry of m	icroorgamism tea	aching is to ac	quire knowledge	in the field of
Structure and physic molecular biology a microbial diseases a	ology of mid nd genetics	; medical microb		_	
Recommended liter McCall D., Stock D. Willey, J.M., Sherwo McGraw-Hill Int. Ed Black J.G., Microbid	, Achrey P., ood L.M., W 1., USA, 200	Voolverton C.J., P 08	rescott, Harley,		-
Course language:					
Notes:					
Course assessment Total number of asse	essed studen	ts: 158			
A	В	С	D	Е	FX
51.27	24.05	17.09	6.96	0.63	0.0
Provides: doc. RND	r. Mária Koz	žurková, CSc.			
Date of last modific	ation: 03.05	5.2015			
Approved: prof. RN	Dr. Juraj Če	rnák, DrSc.			
		-			

Course type, scope and the method: Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Number of ECTS credits: 5 Recommended semester/trimester of the course: Course level: I., II. Prerequisities: Conditions for course completion: Test or seminar works examination Learning outcomes: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brief outline of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace clements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: 1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998. 3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997. Course language:		CO	URSE INFORM	MATION LETT	TER	
Course ID: ÚCHV/ 3AC1/04 Course name: Bioinorganic Chemistry I 3AC1/04 Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Image: Course type: Lecture / Practice Recommended semester/trimester of the course: Sumber of ECTS credits: 5 Image: Course type: Lecture / Practice Recommended semester/trimester of the course: Image: Course type: Lecture / Practice Course level: 1, II. Prerequisities: Image: Course completion: Test or seminar works examination Image: Course completion: Test or seminar works examination Learning outcomes: Image: Course completion: Test or seminar works examination Image: Course completion: Test or seminar works examination Learning outcomes: Image: Course: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brif outline of the course: Image: Course completion: The basic drugs, toxic metals, pulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic Chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: Image: Cours	University: P. J.	Šafárik Univers	ity in Košice			
BAC1/04 Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Number of ECTS credits: 5 Recommended semester/trimester of the course: Course level: 1, II. Prerequisities: Control level: 1, II. Prerequisities: Control level: 1, Back and the method: Course level: 1, Back and the method: Prerequisities: Conditions for course completion: Test or seminar works examination Learning outcomes: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Shrie outine of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: I. Schiver D. F. Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins	Faculty: Faculty	of Science				
Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Number of ECTS credits: 5 Recommended semester/trimester of the course: Course level: I., II. Prerequisities: Conditions for course completion: Test or seminar works examination Learning outcomes: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brief outline of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinogranic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommendel literature: 1. 1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganie Elements in the Chemistry of Life. Wiley	Course ID: ÚCH BAC1/04	IV/ Course na	me: Bioinorgan	ic Chemistry I		
Recommended semester/trimester of the course: Course level: I., II. Prerequisities: Conditions for course completion: Test or seminar works carnination Learning outcomes: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brief outline of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: 1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998. 3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford	Course type: L Recommended Per week: 2 / 1	ecture / Practice course-load (h Per study peri	ours):			
Course level: 1., II. Prerequisities: Conditions for course completion: Test or seminar works examination Learning outcomes: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brief outline of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinoganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: 1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998. 3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997. Course assessment	Number of ECT	S credits: 5				
Prerequisities: Conditions for course completion: Test or seminar works examination Learning outcomes: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brief outline of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: 1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998. 3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997. Course language: Notes: Course assessment Total numb	Recommended s	semester/trimes	ster of the cours	e:		
Conditions for course completion: Test or seminar works examination Learning outcomes: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brief outline of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: 1. Kniver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry in Biology. OCP, Oxford 1997. Course language: Notes: Course assessment Total number of assessed students: 272 A B C D E FX 41.54 27.57 19.12 5.15 6.25 0.37	Course level: I.,	II.				
Test or seminar works examination Learning outcomes: The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brief outline of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: 1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998. 3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997. Course language: Notes: Catar and an under of assessed students: 272 A B C D E FX 41.54 27.57 19.12 5.15 6.25 0.37	Prerequisities:					
The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment. Brief outline of the course: Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life. Recommended literature: 1. 1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998. 3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997. Course language: Notes: Carse assessment Total number of assessed students: 272 A B C D E FX 41.54 27.57 19.12 5.15 6.25 0.37 <td></td> <td>-</td> <td>on:</td> <td></td> <td></td> <td></td>		-	on:			
Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization. Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life.Recommended literature: 1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998. 3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997.Course language: Notes: Course assessment Total number of assessed students: 272 A B C D E FX 41.54 27.57 19.12 5.15 6.25 0.37	The basic know biocatalysis, me	ledges about bio tals in biology a				
1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006. 2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998. 3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997. Course language: Notes: Course assessment Total number of assessed students: 272 A B C D E FX 41.54 27.57 19.12 5.15 6.25 0.37	Metalic and non- elements, essen Oxygen carriers processes. Calcin bioinorganic che	-metalic elemen tial trace elem and oxygen tra um biominerals emistry in pharm	ents). Biocoord nsport proteins. and biomineraliz nacy, chemother	ination compou Photochemical p zation.Toxic met apy (e.g. platinu	nds, bioligands. process. Catalysis als. Application of m complexes in	Biocatalyzers. and regulation of knowledge of
Notes: Course assessment Total number of assessed students: 272 A B C D E FX 41.54 27.57 19.12 5.15 6.25 0.37	 Shriver D. F., Atkins. Inorgani Kaim W., Sch Life. Wiley, Chi 3. Wilkins P. C., 	Atkins P. W., O c Chemistry. Ox wederski B.: Bi chester 1998. Wilkins R. G.:	ford University oinorganic Chem	Press, Oxford 20 histry: Inorganic	06. Elements in the C	Chemistry of
Course assessmentTotal number of assessed students: 272ABCDEFX41.5427.5719.125.156.250.37	Course language	e:				
Total number of assessed students: 272 A B C D E FX 41.54 27.57 19.12 5.15 6.25 0.37	Notes:					
A B C D E FX 41.54 27.57 19.12 5.15 6.25 0.37			ts: 272			
41.54 27.57 19.12 5.15 6.25 0.37	I			D	Е	FX
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Date of last modification: 03.05.2015

Approved: prof. RNDr. Juraj Černák, DrSc.

	Šafárik Univers	sity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚCI BAC2/05	HV/ Course na	ame: Bioinorgani	c Chemistry II		
Recommended	ecture / Practice l course-load (h Per study peri	e ours):			
Number of ECT	FS credits: 5				
Recommended	semester/trime	ster of the course	e: 2.		
Course level: II.					
Prerequisities:	ÚCHV/BAC1/04	4			
Conditions for a	course complet	ion:			
and their physic transition eleme Brief outline of Goal of the cou	trse is to provid ochemical prope nts (Zn, Fe, Co, the course: trse is to provid ochemical prope	e the students wi erties, biological e	efficiency of son	ne coordination c	ion compounds
	May M. T., Plis	hka M. J., Robins	on K. D.: Metal	s in biological sy	stems, Ellis
Horwood, New Kaim, W., Schw Life, John Wiley	ederski, B.: Bio	inorganic Chemis chester 1994.	try: Inorganic E	lements in the Cl	
Kaim, W., Schw Life, John Wiley	vederski, B.: Bio y and Sons, Chio	0	try: Inorganic E	lements in the Cl	
Kaim, W., Schw Life, John Wiley Course languag	vederski, B.: Bio y and Sons, Chio	0	try: Inorganic E	lements in the Cl	
Kaim, W., Schw Life, John Wiley Course languag	vederski, B.: Bio y and Sons, Chio ee: ent	chester 1994.	try: Inorganic E	lements in the Cl	
Kaim, W., Schw Life, John Wiley Course languag Notes: Course assessm	vederski, B.: Bio y and Sons, Chio ee: ent	chester 1994.	try: Inorganic E	lements in the Cl	
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Kaim, W., Schw Life, John Wiley Course languag Notes: Course assessm Total number of A 74.07	ederski, B.: Bio y and Sons, Chio ee: ent `assessed studer B 7.41 RNDr. Katarína	chester 1994. hts: 27 C 18.52 Györyová, DrSc.	D	E	FX

	University: P. J.	Šafárik U	Jniversity ir	Košice
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Faculty: Faculty of Science

Course ID: ÚCHV/	Course name: Bioinorganic Chemistry III
BAC3/04	

Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14

Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚCHV/BAC2/05

Conditions for course completion:

Test.

Learning outcomes:

To make the acquaintance of actual status and selected topics of the research in bioinorganic chemistry.

Brief outline of the course:

Singlet and triplet dioxygen and organisms. Oxygen atom transfer reactions. Dioxygen radical generating systems. Inorganic compounds as the analogues of the active sites of the metalloproteins. Construction of Small molecule enzyme mimics as drugs (SOD mimics). Metals in medical applications (the use of chelating agents, metal based chemotherapeutic drugs, metallodrugs as diagnostic agents, metals as biomaterials). Physical methods.

Recommended literature:

1. Kaim, W., Schwederski, B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life, John Wiley and Sons, Chichester 1994.

2. Wilkins P.C., Wilkins R.G.: Inorganic Chemistry in Biology. Oxford Science Publications, Oxford 1997.

3. Kendrick M.J. a kol.: Metals in biological systems, Ellis Horwood Limited, Chichester, England, 1992

4. Helsen, J.A. Breme H.J.: Metals as biomaterials, Wiley, Chichester, England, 1998.

Course language:

Notes:

Course assessment

Total number of assessed students: 21

А	В	С	D	Е	FX	
61.9	19.05	19.05	0.0	0.0	0.0	
Provides: doc. RNDr. Zuzana Vargová, Ph.D.						
Date of last modification: 03.05.2015						

Approved: prof. RNDr. Juraj Černák, DrSc.

University: P. J. Šat	ärik Univers	ity in Košice					
Faculty: Faculty of	Science						
Course ID: ÚCHV/ BACM/14	: ÚCHV/ Course name: Bioinorganic Chemistry and Toxicology						
Course type, scope Course type: Recommended co Per week: Per stu Course method: p	urse-load (h dy period: resent						
Number of ECTS of							
Recommended sem	ester/trimes	ster of the cours	e:				
Course level: II.							
Prerequisities: ÚC	IV/BAC3/04	and ÚCHV/TO	X1/03				
Conditions for cou	rse completi	on:					
Learning outcomes	:						
Brief outline of the	course:						
Recommended lite	rature:						
Course language:							
Notes:							
Course assessment Total number of ass	essed studen	ts: 2					
A	В	С	D	Е	FX		
50.0	50.0	0.0	0.0	0.0	0.0		
Provides:					1		
Date of last modified	cation: 03.05	5.2015					
Approved: prof. RN	IDr. Juraj Če	rnák, DrSc.		_			

University: P J	Šafárik University in Košice	
University. 1. J.	Salarik Oniversity in Rosiec	

Faculty: Faculty of Science

Course ID: ÚCHV/ Course name: Bioorganic chemistry BOC/03

Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: 3 Per study period: 42 Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Examinationn

Learning outcomes:

Explanation of fundamental principles for the construction of bioorganic molecular models of biochemical precesses using the tools of organic chemistry.

Brief outline of the course:

1. Introduction: Basic consideration, proximity effects in biochemistry, Molecular adaptation, Molecular recognition at the supramolecular level.

2. Bioorganic Chemistry of amino acids and polypeptides: Chemistry of the living cells, Analogy between organic reactions and biochemical tranformations, Chemistry of the peptide bond, Nonribosomal peptide formation, Asymmetric synthesis od amino acids, Asymmetric synthesis with chiral organometalic catalysts, Transition state analogs, Antibodies as enzymes, Chemical mutations, Molecular recognition and Drug design.

3. Bioorganic Chemistry of the Phosphate groups and polynucleotides: Energy storage, DNA intercalates, RNA molecules as catalysts.

4. Enzyme Chemistry: Introduction to catalysis and enzymes, Multifuntional catalysis and Simple models, alfa-Chymotrypsin, Other hydrolytic enzymes, Strereoelectronic control in hydrolytic reactions, Immobilized enzymes, Enzymes in synthetic organic chemistry, Enzyme-Analog-Built polymers, Design of molecular clefts.

5. Enzyme Models: Host-Guest complexation chemistry, New development in crown ether chemistry, Membrane chemistry and micelles, Polymers, Cyclodextrins, Enzyme design using steroid template, Remote functionalisation reactions, Polyene biomimetic cyclisations.

6. Metal Ions: Metal ions in proteins and biological molecules, Carbopeptidase A, Hydrolysis of amino acid esters and peptides, Iron and oxygen transport, Cooper ion, Cobalt and vitamin B12 action, Oxidoreduction, Pyridoxal phosphate, Biotin.

Recommended literature:

Voet J. : Biochemistry, Springer Verlag, 1998 Dugas H.: Bioorganic Chemistry, Springer Verlag, 1999.

Course language:

Notes:								
Course assessment Total number of assessed students: 157								
А	В	С	D	Е	FX			
82.8	5.1	7.01	3.82	1.27	0.0			
Provides: prof.	RNDr. Jozef Goi	nda, DrSc.						
Date of last modification: 03.05.2015								
Approved: prof. RNDr. Juraj Černák, DrSc.								

University: P. J. Ša	fárik Univers	ity in Košice				
Faculty: Faculty of	f Science					
Course ID: KFaDF/Course name: Chapters from History of Philosophy of 19th and 20th Centuries (General Introduction)						
Course type, scope Course type: Prac Recommended co Per week: 2 Per s Course method: p	ctice ourse-load (h study period:	ours):				
Number of ECTS	credits: 2					
Recommended ser	nester/trimes	ster of the course	e: 2.			
Course level: II.						
Prerequisities:						
Conditions for cou	ırse completi	on:				
Learning outcome	s:					
Brief outline of the	e course:					
Recommended lite	erature:					
Course language:						
Notes:						
Course assessment Total number of as		ts: 10				
A	В	С	D	E	FX	
50.0	20.0	10.0	0.0	10.0	10.0	
Provides: doc. PhD	Dr. Pavol Thol	t, PhD., mim. pro	of.	·		
Date of last modifi	ication: 03.05	5.2015				
Approved: prof. R	NDr. Juraj Če	rnák, DrSc.				

University: P. J. Š	afárik Universi	ty in Košice			
Faculty: Faculty o	of Science				
Course ID: ÚCHV CHE2/03	// Course na	me: Chemical E	Excursion		
Course type, scop Course type: Pra Recommended c Per week: Per s Course method:	ctice ourse-load (ho tudy period: 1	ours):			
Number of ECTS					
Recommended se	mester/trimes	ter of the cours	e: 2., 4.		
Course level: II.					
Prerequisities:					
Conditions for co	urse completio	on:			
Learning outcom	es:				
Brief outline of th	e course:				
Recommended lit	erature:				
Course language:					
Notes:					
Course assessmen Total number of as	-	s: 88			
A	В	С	D	Е	FX
94.32	5.68	0.0	0.0	0.0	0.0
Provides: doc. RN	Dr. Zuzana Va	rgová, Ph.D.			
Date of last modif	fication: 03.05	.2015			
Approved: prof. R	NDr. Juraj Čen	mák, DrSc.			

Faculty: Faculty of Course ID: ÚCHY TOX1/03 Course type, scop					
TOX1/03	V/ Course na				
Course type, scon		me: Chemical To	oxicology		
Course type: Lee Recommended of Per week: 2 / 1 H Course method:	cture / Practice course-load (h Per study peri	ours):			
Number of ECTS	S credits: 5				
Recommended se	emester/trimes	ster of the course	e: 3.		
Course level: II.					
Prerequisities:					
Conditions for co	ourse completi	on:			
Learning outcom Goal of the course effect, interactions	e is to provide		-	f toxic substances	and their toxic
compounds (absor- toxic responses). T Food additives and safety practices w European Union a Recommended life	Types of expos d contaminants with chemical and order of Go	ure and response. s. Pesticides. Envi substances, desig	Drugs as toxic s ironmental pollu gnation of subst	substances. Indust itants. Natural pro	trial toxicology. oducts. Risk and
J. A. Timbrell: Int V. E. Forbes, T. L H. M. Stahr: Anal	. Forbes: Toxic	cology in Theory	and Practice, Ch	napmane Hall, Lo	
Course language:	:				
Notes:					
Course assessmen Total number of a		ts: 45			
Α	В	С	D	E	FX
28.89	28.89	24.44	11.11	2.22	4.44
Provides: prof. RI	NDr. Katarína	Györyová, DrSc.,	, RNDr. Mirosla	va Matiková-Maľ	'arová, PhD.
Date of last modi	fication: 03.05	5.2015			
Approved: prof. F	RNDr. Juraj Če	ernák, DrSc.			

University: P. J. Šafá Faculty: Faculty of S	arik Universit	v in Košice					
	·						
Course ID: ÚCHV/ CMG/03	ÚCHV/ Course name: Chemical management						
Course type, scope a Course type: Lectu Recommended cou Per week: 3 Per stu Course method: pro	re rse-load (ho ıdy period: 4	urs):					
Number of ECTS cr	edits: 5						
Recommended seme	ester/trimest	er of the cours	e: 1.				
Course level: II.							
Prerequisities:							
Conditions for cours	se completio	n:					
The main goal is tho the basic principles pharmaceutical indus Brief outline of the o Basic processes com Slovak chemical con	of productionstry.	on management	, marketing, str	ategy building i	n chemical and		
Recommended litera Internal sources	ature:						
Course language:							
Notes:							
Course assessment Total number of asse	essed students	s: 170					
A	В	С	D	Е	FX		
54.12	44.71	1.18	0.0	0.0	0.0		
Provides: RNDr. Ján	Elečko, PhD).					
Date of last modifica	ation: 03.05.	2015					
Approved: prof. RN	Dr. Jurai Čer	nák. DrSc.					

University: P. J	. Šafárik	University in	n Košice				
Faculty: Facult	y of Scie	ence					
Course ID: ÚCHV/ Course name: Chemistry of nanomaterials CNM/15							
Course type, so Course type: 1 Recommende Per week: 2 / Course metho	Lecture / d course 1 Per stu d: prese	Practice -load (hours idy period: 2 nt	s):				
Number of EC							
Recommended		er/trimester	of the cours	e: 1., 3.			
Course level: I	[
Prerequisities:							
Conditions for	course o	completion:					
Learning outco	mes:						
Brief outline of	f the cou	rse:					
Recommended	literatu	re:					
Course languag	ge:						
Notes:							
Course assessm Total number o		d students: 2	8				
A	В	С	D	Е	FX	N	Р
71.43	14.29	7.14	0.0	0.0	0.0	0.0	7.14
Provides: prof.	RNDr. V	/ladimír Zele	ňák, DrSc.				•
Date of last mo	dificatio	on: 03.05.201	.5				
Approved: prof	f. RNDr.	Juraj Černák	, DrSc.				

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚCHV/ Course name: Class Project P/14						
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent					
Number of ECTS cr						
	ster/trimester of the co	urse: 2.				
Course level: II.						
Prerequisities:	,					
Conditions for cours	se completion:					
Learning outcomes:						
Brief outline of the o	course:					
Recommended litera	ature:					
Course language:						
Notes:						
Course assessment Total number of asse	ssed students: 146					
	abs	n				
	98.63	1.37				
Provides:						
Date of last modifica	ntion: 03.05.2015					
Approved: prof. RN	Dr. Juraj Černák, DrSc.					

University: P. J. Ša	fárik Universi	ty in Košice				
Faculty: Faculty of	Science					
Course ID: KPPaPZ/KK/07	7 Course name: Communication and Cooperation					
Course type, scope Course type: Prac Recommended co Per week: 2 Per s Course method: p	etice ourse-load (he tudy period:	ours):				
Number of ECTS	credits: 2					
Recommended sen	nester/trimes	ter of the course: 3.				
Course level: II.						
Prerequisities:						
Conditions for cou	rse completio	on:				
Learning outcome	s:					
Brief outline of the	e course:					
Recommended lite	erature:					
Course language:						
Notes:						
Course assessment Total number of as		s: 281				
abs		n	Z			
98.22		1.78	0.0			
Provides: Mgr. On	drej Kalina, Pl	hD., Mgr. Lucia Hricová, PhD	· · · · · · · · · · · · · · · · · · ·			
Date of last modifi	cation: 04.09	.2019				
Approved: prof. R	NDr. Juraj Čei	rnák, DrSc.				

	CO	UNSE INFORM		LK	
University: P. J. Ša	ıfárik Univers	ity in Košice			
Faculty: Faculty of	f Science				
Course ID: ÚCHV VMS1/03	Course na	me: Computing	Methods in X-R	ay Structure Ana	llysis
Course type, scope Course type: Prac Recommended co Per week: 2 Per s Course method: p	ctice ourse-load (h study period:	ours):			
Number of ECTS	credits: 2			_	
Recommended ser	nester/trimes	ster of the cours	e: 2.		
Course level: II.					
Prerequisities: ÚC	HV/STA1/03				
Conditions for cou Semester project.	ırse completi	on:			
Learning outcome Crystal structure an Brief outline of the Practical course of 1000 since data pro- the necessary files in SIR and SUPERFL (DIAMOND); draw and hydrogen bonch necessary data for of results of powde Recommended litte Manuals for the pro- Course language:	nalysis of sim e course: f crystal structoressing to pu for the structu LIP), refineme wing of the structu ds (PARST); t similar structores er diffraction to erature: ograms.	tures solution for blishing structure re solution (Wing nt of the model (S uctural scheme (I abulation of the ures from the Ca	r substances with es: selection of the gx); search for the SHELX); graphic (SIS DRAW); cal results of crystal mbridge Structure	h the number of ne right space gro e model of the stru- cal representation lculations of bond structure analysi ral Database Sys	atoms less than oup and generate ucture (SHELX, of the structure d lengths, angles is, obtaining the tem. Processing
Slovak and English	1				
Notes:					
Course assessment Total number of as		ts: 57			
A	B	C	D	E	FX
80.7	10.53	2.51		<u> </u>	
~~~	10.55	3.51	5.26	0.0	0.0
			5.26	0.0	0.0
Provides: doc. RNI Date of last modifi	Dr. Ivan Poto	čňák, PhD.	5.26	0.0	0.0

University: P. J. Šafa	árik Univers	ity in Košice					
Faculty: Faculty of	Science						
Course ID: ÚCHV/ KCH/14							
Course type, scope Course type: Recommended cou Per week: Per stu Course method: pr	urse-load (h dy period: resent						
Number of ECTS c							
Recommended sem	ester/trimes	ter of the cours	e:				
Course level: II.							
Prerequisities: ÚCH	V/KCH1/00	) and ÚCHV/VE	S/03				
Conditions for cour	se completi	on:					
Learning outcomes							
Brief outline of the	course:						
<b>Recommended liter</b>	ature:						
Course language:							
Notes:							
Course assessment Total number of asse	essed studen	ts: 28					
Α	В	С	D	Е	FX		
64.29	28.57	3.57	0.0	3.57	0.0		
Provides:							
Date of last modific	ation: 03.05	.2015					
Approved: prof. RN	Dr. Juraj Če	rnák, DrSc.					

University: P. J.	Šafárik Univers	sity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚCH KCH1/00	IV/ Course na	ame: Coordinatio	on Chemistry		
Course type, sco Course type: Lo Recommended Per week: 2 / 1 Course method	ecture / Practice course-load (h Per study perio	e ours):			
Number of ECT	'S credits: 5				
Recommended s	semester/trimes	ster of the cours	<b>e:</b> 1.		
Course level: II.					
Prerequisities:					
Conditions for c	ourse completi	ion:			
					in coorainatio
compounds. Brief outline of t Definition and n numbers. Isomer coordination con	omenclature of rism, preparatio	coordination cor	npounds. Centra	l atom and ligan	
<b>Brief outline of t</b> Definition and nonumbers. Isomer	omenclature of rism, preparatio npounds. iterature: nation Chemistr A. Keiter, R. L.	coordination con n and stability c y, Wiley-VCH, V Keiter: Inorgan	npounds. Centra of coordination c Weinheim, 2008. c Chemistry, Haj	l atom and ligand ompounds, chem per Collins, New	ds, coordinatio nical bonding i
Brief outline of t Definition and n- numbers. Isomer coordination con Recommended I J. Ribas: Coordin J. C. Huheey, E.	omenclature of rism, preparatio npounds. iterature: nation Chemistr A. Keiter, R. L. Introduction to	coordination con n and stability c y, Wiley-VCH, V Keiter: Inorgan	npounds. Centra of coordination c Weinheim, 2008. c Chemistry, Haj	l atom and ligand ompounds, chem per Collins, New	ds, coordination nical bonding i
Brief outline of the Definition and neurophysical data in the Definition and n	omenclature of rism, preparatio npounds. iterature: nation Chemistr A. Keiter, R. L. Introduction to	coordination con n and stability c y, Wiley-VCH, V Keiter: Inorgan	npounds. Centra of coordination c Weinheim, 2008. c Chemistry, Haj	l atom and ligand ompounds, chem per Collins, New	ds, coordination nical bonding i
Brief outline of the Definition and neurophysical data in the Definition and n	omenclature of rism, preparatio npounds. iterature: nation Chemistr A. Keiter, R. L. Introduction to e: ent	coordination con n and stability c y, Wiley-VCH, V Keiter: Inorgani Coordination C	npounds. Centra of coordination c Weinheim, 2008. c Chemistry, Haj	l atom and ligand ompounds, chem per Collins, New	ds, coordination nical bonding i
Brief outline of t Definition and n numbers. Isomer coordination con Recommended I J. Ribas: Coordin J. C. Huheey, E. G. A. Lawrance: Course language Notes: Course assessme	omenclature of rism, preparatio npounds. iterature: nation Chemistr A. Keiter, R. L. Introduction to e: ent	coordination con n and stability c y, Wiley-VCH, V Keiter: Inorgani Coordination C	npounds. Centra of coordination c Weinheim, 2008. c Chemistry, Haj	l atom and ligand ompounds, chem per Collins, New	ds, coordination nical bonding i
Brief outline of t Definition and n numbers. Isomer coordination con Recommended I J. Ribas: Coordin J. C. Huheey, E. G. A. Lawrance: Course language Notes: Course assessme Total number of	omenclature of rism, preparatio npounds. iterature: nation Chemistr A. Keiter, R. L. Introduction to e: ent assessed studen	coordination con n and stability c y, Wiley-VCH, V Keiter: Inorgani Coordination C	npounds. Centra of coordination c Weinheim, 2008. c Chemistry, Ha hemistry, Wiley,	l atom and ligand ompounds, chem per Collins, New 2010.	ds, coordination nical bonding in York, 1993.
Brief outline of t Definition and n numbers. Isomer coordination con Recommended I J. Ribas: Coordin J. C. Huheey, E. G. A. Lawrance: Course language Notes: Course assessme Total number of A	omenclature of rism, preparatio npounds. iterature: nation Chemistr A. Keiter, R. L. Introduction to e: ent assessed studen B 17.14	coordination con n and stability c y, Wiley-VCH, V Keiter: Inorgani Coordination C tts: 105 C 13.33	pounds. Centra of coordination c Weinheim, 2008. c Chemistry, Ha hemistry, Wiley, D 7.62	l atom and ligand ompounds, chem per Collins, New 2010. E 6.67	ds, coordinatio nical bonding i York, 1993. FX
Brief outline of t Definition and n numbers. Isomer coordination con Recommended I J. Ribas: Coordin J. C. Huheey, E. G. A. Lawrance: Course language Notes: Course assessme Total number of A 55.24	omenclature of rism, preparatio npounds. iterature: nation Chemistr A. Keiter, R. L. Introduction to e: ent assessed studen B 17.14 RNDr. Juraj Čern	coordination con n and stability c y, Wiley-VCH, V Keiter: Inorgani Coordination C ts: 105 C 13.33 nák, DrSc., doc.	pounds. Centra of coordination c Weinheim, 2008. c Chemistry, Ha hemistry, Wiley, D 7.62	l atom and ligand ompounds, chem per Collins, New 2010. E 6.67	ds, coordination nical bonding in York, 1993. FX

University: P. J	. Šafárik Univers	ity in Košice			
Faculty: Facult	y of Science				
<b>Course ID:</b> ÚC DPO/14	HV/ Course na	me: Diploma Tl	nesis and its Defe	ence	
Course type: Recommended Per week: Per Course metho					
Number of EC					
	semester/trimes	ter of the cours	e:		
Course level: II	-				
Prerequisities:					
<b>Conditions for</b>	course completi	on:			
Learning outco	mes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	ge:				
Notes:					
Course assessm Total number of	ent f assessed studen	ts: 140			
А	В	С	D	Е	FX
65.71	25.0	5.71	2.14	1.43	0.0
Provides:					
Date of last mo	dification: 03.05	.2015			
Approved: prof	RNDr. Juraj Če	rnák, DrSc.		-	

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> ÚCH EMDP/03	IV/ Course na	ame: Experiment	tal Methods to M	aster's Thesis	
Course type, sco Course type: Pr Recommended Per week: 6 Per Course method	ractice course-load (h r study period:	ours):			
Number of ECT	S credits: 6				
Recommended s	emester/trimes	ster of the cours	<b>e:</b> 3.		
Course level: II.					
Prerequisities:					
Conditions for c	ourse completi	on:			
Learning outcom	nes:				
Brief outline of t	the course:				
Recommended l	iterature:				
Course language	2.				
Notes:					
Course assessme Total number of		ts: 368			
А	В	С	D	Е	FX
94.29	3.8	0.54	0.54	0.82	0.0
Provides: RNDr. DrSc., doc. RND Antalík, DrSc., pi RNDr. Jozef Gon doc. RNDr. Taťán Oriňaková, DrSc. Vladimír Zeleňák RNDr. Miroslava Tomášková, PhD Daniela Kladekov RNDr. Danica Sa prof. Mgr. Vasil ² doc. Ing. Viera V	r. Ján Imrich, C rof. RNDr. Jura da, DrSc., prof. na Gondová, CS ., doc. RNDr. Iv c, DrSc., doc. R Matiková-Maľ ., RNDr. Andre vá, CSc., RNDr bolová, PhD., F Andruch, DSc.,	Sc., doc. RNDr. j Černák, DrSc., RNDr. Andrej C Sc., doc. RNDr. M ran Potočňák, Ph NDr. Viktor Vígl arová, PhD., doc a Morovská Turc Slávka Hamuľa RNDr. Zuzana Ku	Mária Kožurková prof. RNDr. Kata Driňak, PhD., doc Airoslava Martinl D., doc. RNDr. E aský, PhD., doc. . RNDr. Juraj Ku pňová, PhD., RNI ková, PhD., RNI udličková, PhD.,	i, CSc., prof. Ing urína Györyová, l . RNDr. Zuzana cová, PhD., prof. rik Sedlák, PhD. RNDr. Katarína chár, PhD., RNE Dr. Dušan Koščík Dr. Rastislav Vark RNDr. Lívia Kog	. Marián DrSc., prof. Vargová, Ph.D., RNDr. Renáta , prof. RNDr. Reiffová, PhD., Dr. Nataša k, CSc., RNDr. nač, PhD., cúrová, PhD.,
Date of last mod	ification: 03.05	5.2015			

Approved: prof. RNDr. Juraj Černák, DrSc.

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> KFa DF2p/03	DF/ Course na	me: History of I	Philosophy 2 (Ge	neral Introductio	n)
Course type, sco Course type: L Recommended Per week: 2 / 1 Course method	ecture / Practice course-load (h Per study perio l: present	ours):			
Number of ECT					
Recommended s	semester/trimes	ster of the cours	e:		
Course level: I.,	II				
Prerequisities:					
Conditions for c	ourse completi	on:			
Learning outcor	nes:				
Brief outline of	the course:				
Recommended l	iterature:				
Course language	e:				
Notes:					
Course assessme Total number of		ts: 739			
А	В	С	D	Е	FX
60.89	13.8	12.58	8.66	3.38	0.68
<b>Provides:</b> doc. P Katarína Mayero		· · ·		eter Nezník, CSo	c., PhDr.
Date of last mod	lification: 25.03	.2020			
Approved: prof.	RNDr. Juraj Če	rnák, DrSc.			

	. Salalik Univers	sity in Košice			
Faculty: Faculty	y of Science				
<b>Course ID:</b> ÚC HGS/15	HV/ Course na	ame: Host-Guest	and Supramole	cular Systems	
Course type: I Recommended	ope and the met Lecture / Practice d course-load (h l Per study peri d: present	e ours):			
Number of EC	<b>FS credits:</b> 3				
Recommended	semester/trimes	ster of the cours	<b>e:</b> 1.		
Course level: II	•				
Prerequisities:					
Conditions for	course completi	ion:			
Learning outco	mes:				
Differ outline Of	the course:				
Clathate, inclus thiourea, Hofma cryptates, possi and importance	sion compound, ann type clathates bilities of their p of weak interact	s and its analogs, practical use. Fro	Werner-type cla m molecular to	clathates, clathra athtaes, calixarene supramolecular o y, crystal engineer	es, crown-ethers chemistry, types
Clathate, inclus thiourea, Hofma cryptates, possi and importance <b>Recommended</b>	sion compound, ann type clathates bilities of their p of weak interact <b>literature:</b>	s and its analogs, practical use. Fro tions in supramol	Werner-type cla m molecular to ecular chemistry	thtaes, calixarene supramolecular	es, crown-ethers chemistry, types ring.
Clathate, inclus thiourea, Hofma cryptates, possi and importance <b>Recommended</b> Beer P.D., Gale	sion compound, ann type clathates bilities of their p of weak interact <b>literature:</b> P.A., Smith D.K	s and its analogs, practical use. Fro tions in supramol	Werner-type cla m molecular to ecular chemistry	thtaes, calixarene supramolecular o y, crystal engineer	es, crown-ethers chemistry, types ring.
Clathate, inclus thiourea, Hofma cryptates, possi and importance <b>Recommended</b> Beer P.D., Gale 2003.	sion compound, ann type clathates bilities of their p of weak interact <b>literature:</b> P.A., Smith D.K	s and its analogs, practical use. Fro tions in supramol	Werner-type cla m molecular to ecular chemistry	thtaes, calixarene supramolecular o y, crystal engineer	es, crown-ethers chemistry, types ring.
Clathate, inclus thiourea, Hofma cryptates, possi and importance <b>Recommended</b> Beer P.D., Gale 2003. <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b>	sion compound, ann type clathates bilities of their p of weak interact literature: P.A., Smith D.K	s and its analogs, practical use. Fro tions in supramol	Werner-type cla m molecular to ecular chemistry	thtaes, calixarene supramolecular o y, crystal engineer	es, crown-ethers chemistry, types ring.
Clathate, inclus thiourea, Hofma cryptates, possi and importance <b>Recommended</b> Beer P.D., Gale 2003. <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b>	sion compound, ann type clathates bilities of their p of weak interact literature: P.A., Smith D.K ge:	s and its analogs, practical use. Fro tions in supramol	Werner-type cla m molecular to ecular chemistry	thtaes, calixarene supramolecular o y, crystal engineer	es, crown-ethers chemistry, types ring.
Clathate, inclus thiourea, Hofma cryptates, possi and importance <b>Recommended</b> Beer P.D., Gale 2003. <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b> Total number of	sion compound, ann type clathate: bilities of their p of weak interact literature: P.A., Smith D.K ge:	s and its analogs, practical use. Fro tions in supramol (.: Supramolecula (.: 9	Werner-type cla m molecular to ecular chemistry r Chemistry, O	thtaes, calixarene supramolecular of y, crystal engineer cford University F	es, crown-ethers chemistry, types ring. Press, Oxford,
Clathate, incluss thiourea, Hofma cryptates, possi and importance <b>Recommended</b> Beer P.D., Gale 2003. <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b> Total number of A 77.78 <b>Provides:</b> RND	sion compound, ann type clathates bilities of their p of weak interact literature: P.A., Smith D.K ge: nent f assessed studen B 11.11 r. Martin Vavra, 1	s and its analogs, practical use. Fro tions in supramol L: Supramolecula ats: 9 C 11.11	Werner-type cla m molecular to ecular chemistry ar Chemistry, O> D 0.0	thtaes, calixarene supramolecular of y, crystal engineer cford University F	es, crown-ethers chemistry, types ring. Press, Oxford, FX 0.0
Clathate, incluss thiourea, Hofma cryptates, possi and importance <b>Recommended</b> Beer P.D., Gale 2003. <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b> Total number of A 77.78 <b>Provides:</b> RND Matiková-Maľa	sion compound, ann type clathates bilities of their p of weak interact literature: P.A., Smith D.K ge: nent f assessed studen B 11.11 r. Martin Vavra, 1	s and its analogs, practical use. Fro tions in supramol L: Supramolecula nts: 9 C 11.11 PhD., prof. RND	Werner-type cla m molecular to ecular chemistry ar Chemistry, O> D 0.0	thtaes, calixarene supramolecular of y, crystal engineer cford University F	es, crown-ethers chemistry, types ring. Press, Oxford, FX 0.0

University: P. J. Ša	afárik Univers	ity in Košice			
Faculty: Faculty o	f Science				
<b>Course ID:</b> KFaD IH2/03	F/ Course na	me: Idea Huma	nitas 2 (General 1	Introduction)	
Course type, scop Course type: Pra Recommended co Per week: 2 Per s Course method:	ctice ourse-load (h study period: present	ours):			
Number of ECTS					
Recommended ser	mester/trimes	ter of the cours	e: 3.		
Course level: II.					
Prerequisities:					
Conditions for con	urse completi	on:			
Learning outcome	es:				
Brief outline of th	e course:				
Recommended lite	erature:				
Course language:					
Notes:					
<b>Course assessmen</b> Total number of as		ts: 8			
A	В	С	D	Е	FX
87.5	12.5	0.0	0.0	0.0	0.0
Provides: Doc. Ph	Dr. Peter Nezr	ník, CSc.		·	
Date of last modif	ication: 12.02	.2020			
Approved: prof. R	NDr. Juraj Če	rnák, DrSc.		-	

University: P. J. Šafarik University in Košice         Faculty: Faculty of Science         Course ID: ÚCHV/       Course name: Inorganic Polymers, Clusters and Organometallics         AKO/15       Course type, scope and the method:         Course type: Lecture / Practice       Recommended course-load (hours):         Per week: 2 / 1 Per study period: 28 / 14       Course method: present         Number of ECTS credits: 5       Recommended semester/trimester of the course: 2., 4.         Course level: II.       Prerequisities:         Conditions for course completion:       Learning outcomes:         Brief outline of the course:       Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes.         Cluster compounds, metal-metal bonding in clusters, intersticial atoms.       Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.         Recommended literature:       Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.         Haidue I., Zuckerman J.J.: Basic Organometallic Chemistry, W. de Gruyter, Berlin, N.Y. 1985.
Course ID: ÚCHV/ AKO/15       Course name: Inorganic Polymers, Clusters and Organometallics         AKO/15       Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present         Number of ECTS credits: 5         Recommended semester/trimester of the course: 2., 4.         Course level: II.         Prerequisities:         Conditions for course completion:         Learning outcomes:         Brief outline of the course: Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes.         Cluster compounds, metal-metal bonding in clusters, intersticial atoms. Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.         Recommended literature: Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
AKO/15 Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Number of ECTS credits: 5 Recommended semester/trimester of the course: 2., 4. Course level: II. Prerequisities: Conditions for course completion: Learning outcomes: Brief outline of the course: Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes. Cluster compounds, metal-metal bonding in clusters, intersticial atoms. Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties. Recommended literature: Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Number of ECTS credits: 5 Recommended semester/trimester of the course: 2., 4. Course level: II. Prerequisities: Conditions for course completion: Learning outcomes: Brief outline of the course: Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes. Cluster compounds, metal-metal bonding in clusters, intersticial atoms. Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties. Recommended literature: Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Recommended semester/trimester of the course: 2., 4.         Course level: II.         Prerequisities:         Conditions for course completion:         Learning outcomes:         Brief outline of the course:         Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes.         Cluster compounds, metal-metal bonding in clusters, intersticial atoms.         Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.         Recommended literature:         Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Course level: II.         Prerequisities:         Conditions for course completion:         Learning outcomes:         Brief outline of the course:         Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes.         Cluster compounds, metal-metal bonding in clusters, intersticial atoms.         Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.         Recommended literature:         Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Prerequisities:         Conditions for course completion:         Learning outcomes:         Brief outline of the course:         Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes.         Cluster compounds, metal-metal bonding in clusters, intersticial atoms.         Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.         Recommended literature:         Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Conditions for course completion:         Learning outcomes:         Brief outline of the course:         Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes.         Cluster compounds, metal-metal bonding in clusters, intersticial atoms.         Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.         Recommended literature:         Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Learning outcomes: Brief outline of the course: Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes. Cluster compounds, metal-metal bonding in clusters, intersticial atoms. Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties. Recommended literature: Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
<ul> <li>Brief outline of the course:</li> <li>Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes.</li> <li>Cluster compounds, metal-metal bonding in clusters, intersticial atoms.</li> <li>Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties.</li> <li>Recommended literature:</li> <li>Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.</li> </ul>
Definition and classification of inorganic polymers. Linear polymers S, Se, Te, (SN)x. Chalkogen glasses, BN, borate glasses. Quartz and silicate glasses. Crystalline silicates and aluminosilicate Boranes and heteroboranes, polyoxovanadium compounds. Hetero and isopolyanions. Polymer cyanocomplexes. Cluster compounds, metal-metal bonding in clusters, intersticial atoms. Organometallic compounds, bondings M-C, typs of ligands, preparatin and their propereties. <b>Recommended literature:</b> Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
Ray, N.H.: Inorganic Polymers, Academic Press, New York, 1978.
<ul> <li>Gupta, B.D., Elias, A.J.: Basic Organometallic Chemistry, CRC Press, Taylor and Francis group Hyderabad (India), 2010.</li> <li>Chandrasekhar, V.: Inorganic and Organometallic Polymers, Springer, Berlin, 2005.</li> <li>Archer, R.D.: Inorganic and Organometallic Polymers, Wiley, New York, 2001.</li> <li>Greenwood, N.N., Earnshaw, A.: Chemie prvku I a II, Informatorium, Praha, 1993</li> </ul>
Course language:
Notes:
Course assessment Total number of assessed students: 11
A B C D E FX
18.18 18.18 0.0 45.45 18.18 0.0
Provides: RNDr. Martin Vavra, PhD., RNDr. Miroslava Matiková-Maľarová, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Juraj Černák, DrSc.

		sity in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> ÚCH AKO/03	IV/ Course na	ame: Inorganic P	olymers, Cluster	s and Organomet	tallics
Course type, sco Course type: La Recommended Per week: 3 / 1 Course method	ecture / Practice course-load (h Per study peri	e iours):			
Number of ECT	S credits: 6			_	
Recommended s	semester/trimes	ster of the cours	e: 2.		
Course level: II.					
Prerequisities:					
Conditions for <b>c</b>	ourse completi	ion:			
Learning outcon	mes:				
		norganic polvme	rs. Linear polym	ers S, Se, Te. (SN	)x. Chalkogen
Definition and cl glasses, BN, bor Boranes and het cyanocomplexes Cluster compour Organometallic of <b>Recommended I</b> Ray, N.H.: Inorg	lassification of i rate glasses. Qua eroboranes, pol s. nds, metal-meta compounds, bor literature: ganic Polymers,	artz and silicate g yoxovanadium c l bonding in clus ndings M-C, typs Academic Press,	glasses. Crystalli ompounds. Hete ters, intersticial a of ligands, prep New York, 1978	aratin and their p	luminosilicate ions. Polymer ropereties.
glasses, BN, bor Boranes and hete cyanocomplexes Cluster compour Organometallic of <b>Recommended I</b> Ray, N.H.: Inorg	lassification of i rate glasses. Qua eroboranes, pol s. nds, metal-meta compounds, bor literature: ganic Polymers, erman J.J.: Basic	artz and silicate g yoxovanadium c l bonding in clus ndings M-C, typs Academic Press,	glasses. Crystalli ompounds. Hete ters, intersticial a of ligands, prep New York, 1978	ne silicates and a ro and isopolyan atoms. aratin and their pi 3.	luminosilicate ions. Polymer ropereties.
Definition and cl glasses, BN, bor Boranes and het cyanocomplexes Cluster compour Organometallic of <b>Recommended I</b> Ray, N.H.: Inorg Haiduc I., Zucke	lassification of i rate glasses. Qua eroboranes, pol s. nds, metal-meta compounds, bor literature: ganic Polymers, erman J.J.: Basic	artz and silicate g yoxovanadium c l bonding in clus ndings M-C, typs Academic Press,	glasses. Crystalli ompounds. Hete ters, intersticial a of ligands, prep New York, 1978	ne silicates and a ro and isopolyan atoms. aratin and their pi 3.	luminosilicate ions. Polymer ropereties.
Definition and cl glasses, BN, bor Boranes and het cyanocomplexes Cluster compour Organometallic of <b>Recommended I</b> Ray, N.H.: Inorg Haiduc I., Zucke <b>Course language</b> <b>Notes:</b>	lassification of i rate glasses. Qua eroboranes, pol s. nds, metal-meta compounds, bor literature: ganic Polymers, erman J.J.: Basic e: ent	artz and silicate g yoxovanadium c l bonding in clus ndings M-C, typs Academic Press, c Organometallic	glasses. Crystalli ompounds. Hete ters, intersticial a of ligands, prep New York, 1978	ne silicates and a ro and isopolyan atoms. aratin and their pi 3.	luminosilicate ions. Polymer ropereties.
Definition and cl glasses, BN, bor Boranes and hete cyanocomplexes Cluster compour Organometallic of <b>Recommended I</b> Ray, N.H.: Inorg Haiduc I., Zucke <b>Course language</b> <b>Notes:</b>	lassification of i rate glasses. Qua eroboranes, pol s. nds, metal-meta compounds, bor literature: ganic Polymers, erman J.J.: Basic e: ent	artz and silicate g yoxovanadium c l bonding in clus ndings M-C, typs Academic Press, c Organometallic	glasses. Crystalli ompounds. Hete ters, intersticial a of ligands, prep New York, 1978	ne silicates and a ro and isopolyan atoms. aratin and their pi 3.	luminosilicate ions. Polymer ropereties.
Definition and cl glasses, BN, bor Boranes and het cyanocomplexes Cluster compour Organometallic of <b>Recommended I</b> Ray, N.H.: Inorg Haiduc I., Zucke <b>Course language</b> <b>Notes:</b> <b>Course assessme</b> Total number of	lassification of i rate glasses. Qua eroboranes, pol s. nds, metal-meta compounds, bor literature: ganic Polymers, erman J.J.: Basic e: ent fassessed studen	artz and silicate g yoxovanadium c l bonding in clus ndings M-C, typs Academic Press, c Organometallic	glasses. Crystalli ompounds. Hete ters, intersticial a of ligands, prepa New York, 1978 Chemistry, W. d	ne silicates and a ro and isopolyan atoms. aratin and their pi 3. e Gruyter, Berlin	luminosilicate ions. Polymer ropereties.
Definition and cl glasses, BN, bor Boranes and het cyanocomplexes Cluster compour Organometallic of <b>Recommended I</b> Ray, N.H.: Inorg Haiduc I., Zucke <b>Course language</b> <b>Notes:</b> <b>Course assessme</b> Total number of A 56.82	lassification of i rate glasses. Qua eroboranes, pol s. nds, metal-meta compounds, bor literature: ganic Polymers, erman J.J.: Basic e: ent assessed studen B 20.45	artz and silicate g yoxovanadium c l bonding in clus ndings M-C, typs Academic Press, c Organometallic nts: 44 C 13.64	glasses. Crystallin ompounds. Hete ters, intersticial a of ligands, prepa New York, 1978 Chemistry, W. d D 6.82	ne silicates and a ro and isopolyan atoms. aratin and their pr 3. e Gruyter, Berlin E	Iuminosilicate ions. Polymer ropereties. , N.Y. 1985. FX
Definition and cl glasses, BN, bor Boranes and het cyanocomplexes Cluster compour Organometallic of <b>Recommended I</b> Ray, N.H.: Inorg Haiduc I., Zucke <b>Course language</b> <b>Notes:</b> <b>Course assessme</b> Total number of A	lassification of i rate glasses. Qua eroboranes, pol s. nds, metal-meta compounds, bor literature: ganic Polymers, erman J.J.: Basic e: ent assessed studen B 20.45 . Miroslava Mat	artz and silicate g yoxovanadium c l bonding in clus ndings M-C, typs Academic Press, c Organometallic nts: 44 C 13.64 tiková-Maľarová	glasses. Crystallin ompounds. Hete ters, intersticial a of ligands, prepa New York, 1978 Chemistry, W. d D 6.82	ne silicates and a ro and isopolyan atoms. aratin and their pr 3. e Gruyter, Berlin E	Iuminosilicate ions. Polymer ropereties. , N.Y. 1985. FX

	Šafárik Universi	ty in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> ÚCI MAG/03	HV/ Course na	me: Magnetoch	emistry		
Course type: I Recommended	ope and the metl Lecture / Practice l course-load (ho Per study perio d: present	ours):			
Number of EC	<b>FS credits:</b> 5				
Recommended	semester/trimes	ter of the cours	<b>e:</b> 3.		
Course level: II					
Prerequisities:					
<b>Conditions for</b> exam	course completio	on:			
correlations bet methods used in and EPR, since	the basic interactive ween the structure on the analysis of the study of magnitude the study of magnitude the study of magnitude the study of the st	e and magnetic hermodynamic netic properties	properties. Stude data (specific he	ents will learn the at, susceptibility,	e basic standard magnetization)
field. Specific h the paramagnet paramagnetic at	atom. Hydrogen neat, susceptibilit s. Atom in the c oms in the crystal . Long-range and	y, magnetization crystal field. Sp l field. Exchange short- range ord	n and electron pa pin Hamiltonian. e and dipole inter ler. Low-dimensi	aramagnetic reso Thermodynami raction. Heisenbe onal magnets. Sp	nance (EPR) in cs and EPR of
of exchange cou	ipling. Exchange	anisouopy. nei	senter, ising and	AT model.	
of exchange cou Recommended 1. R.L. Carlin, A metal compound		Magnetic proper Springer Verla	rties of transition ag, 1977.		
of exchange cou <b>Recommended</b> 1. R.L. Carlin, A metal compound	literature: A.J. Duyneveldt: I ds. New York, inc Inorganic electro	Magnetic proper Springer Verla	rties of transition ag, 1977.		
of exchange cou <b>Recommended</b> 1. R.L. Carlin, <i>A</i> metal compound 2. A.P.P. Lever:	literature: A.J. Duyneveldt: I ds. New York, inc Inorganic electro	Magnetic proper Springer Verla	rties of transition ag, 1977.		
of exchange cou Recommended 1. R.L. Carlin, A metal compound 2. A.P.P. Lever: Course languag Notes: Course assessm	literature: A.J. Duyneveldt: I ds. New York, inc Inorganic electro ge:	Magnetic proper c. Springer Verla nic spectroscop	rties of transition ag, 1977.		
of exchange cou Recommended 1. R.L. Carlin, A metal compound 2. A.P.P. Lever: Course languag Notes: Course assessm	literature: A.J. Duyneveldt: 1 ds. New York, inc Inorganic electro ge:	Magnetic proper c. Springer Verla nic spectroscop	rties of transition ag, 1977.		
of exchange cou Recommended 1. R.L. Carlin, A metal compound 2. A.P.P. Lever: Course languag Notes: Course assessm Total number of	literature: A.J. Duyneveldt: I ds. New York, inc Inorganic electro ge: ent f assessed student	Magnetic proper c. Springer Verla nic spectroscop s: 23	rties of transition ag, 1977. y, Elsevier, Amst	erdam, 1987.	patial anisotropy
of exchange cou Recommended 1. R.L. Carlin, A metal compound 2. A.P.P. Lever: Course languag Notes: Course assessm Total number of A 43.48	literature: A.J. Duyneveldt: I ds. New York, inc Inorganic electro ge: ment f assessed student B	Magnetic proper c. Springer Verla nic spectroscop s: 23 C 13.04	rties of transition ag, 1977. y, Elsevier, Amst D 17.39	erdam, 1987. E	FX

Approved: prof. RNDr. Juraj Černák, DrSc.

	CC	OURSE INFORM	IATION LETT	ER	
University: P. J. Š	afárik Univers	ity in Košice			
Faculty: Faculty o	f Science				
<b>Course ID:</b> ÚCHV MAB/15	// Course na	ame: Mechanism	s of Inorganic Re	eactions	
Course type, scop Course type: Lec Recommended c Per week: 2 / 1 P Course method:	eture / Practice ourse-load (h er study peri	e ours):			
Number of ECTS	credits: 5				
Recommended set	mester/trimes	ster of the cours	e: 2.		
Course level: II.					
Prerequisities:					
<b>Conditions for co</b> two written tests	urse completi	on:			
Learning outcome Basic knowledges technological proc	about inorgan	nic reaction mech	nanisms and its a	application, main	ly in some new
Brief outline of th Introduction of increactants. Classific compounds, interce application. Electre Homogeneous and and biocoordination	organic reactic cation of reac alates. Mecha ochromism, e l heterogeneou	tion mechanism. nism of photoche lectrochromic ma us catalysis mech	Kinetic of reactions, interials and its approximately series approximatel	tions and mecha photochromical r pplication. Photo	nism. Inclusion reactions and its voltaic systems.
Recommended lit 1. Housecroft C.E 2005. 2. Shriver D. F., A Inorganic Chemist 3. Tobe M.L.: Inor vol.9.Butterworths	., Sharpe A.G. tkins P. W., O ry. Oxford Ur ganic Chemis	verton T. L., Rou niversity Press, O try-Reaction Med	rke J.P., Weller N xford 2006.	M.T., Armstrong	
Course language:					
Notes:					
<b>Course assessmen</b> Total number of as		ts: 14			
A	В	С	D	Е	FX
57.14	7.14	28.57	7.14	0.0	0.0
Provides: doc. RN	Dr. Zuzana Va	argová, Ph.D.			
Date of last modif	ication: 03.05	5.2015		=	

Approved: prof. RNDr. Juraj Černák, DrSc.

University: P. J. Š		ity in Košice			
Faculty: Faculty o					
<b>Course ID:</b> ÚCHV FMCH/04	V/ Course na	me: Medicinal o	chemistry		
Course type, scop Course type: Lec Recommended c Per week: 3 / 1 P Course method:	cture / Practice course-load (h Per study perio	ours):			
Number of ECTS	credits: 6				
Recommended se	mester/trimes	ter of the cours	<b>e:</b> 1.		
Course level: II.					
Prerequisities:					
<b>Conditions for co</b> Two tests at semin	-				
chemical and phy the present state in or antitumor drugs <b>Brief outline of th</b> Introduction, class generation, drug cl of central, periph	n the field of s s. <b>The course:</b> sification of dr hirality, search heral and veg	elected importan rugs, factors infl for new drugs, s etative nervous	nt groups of drug uencing design a tructure-activity system, antiba	gs, such as antiba and activity of dr relationships, che	cterial, antiviral
compounds, antitu Recommended lit 1. Medicinal Cher Chemistry, Thoma 2. Advances in Dr 3. Gareth T.: Medi	erature: nistry: Princip as Graham Hou ug Discovery	les and Practice, use, Cambridge, Techniques: Har	King F. D., Ed., 1994. vey A. L., Ed., V	Viley & Sons, Ch	-
<b>Course language:</b> Slovak					
Notes:					
Course assessmen Total number of as		ts: 114			
A	В	С	D	Е	FX
58.77	20.18	14.91	3.51	1.75	0.88
Provides: RNDr. N	Mariana Budov	/ská, PhD., RND	r. Zuzana Kudli	čková, PhD.	
Date of last modif	<b>P (* 01</b> 01	2020			

University: P. J	. Šafárik Univers	ity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚC JCH1/04	HV/ Course na	ame: Nuclear Ch	emistry		
Course type: I Recommende	cope and the met Lecture / Practice d course-load (h 1 Per study perio d: present	e ours):			
Number of EC	TS credits: 5				
Recommended	semester/trimes	ster of the cours	e:		
Course level: I.	, II.				
Prerequisities:					
<b>Conditions for</b> Presentation. Examination.	course completi	on:			
The course is to	omes: sic of radioactivi o provide the stuc lical practise, to g	dents with a know	wledge of prepar		
Radioactivity at life period. Uni registration of	of nuclear chemi nd radioactive di its of radioactivit radiation. Nuclea d, activation analy	sintegration kine y. Nuclear reaction ar chemical technical	tics. Radioactive ons. Sources of nology. Radioact	e disintegration. nuclear radiation tive analytical m	Decay law. Half n. Detection and ethods. Isotopic
G. R. Choppin, Woburn, USA, W. D. Ehmann, York, 1991.	<b>literature:</b> J. Rydberg: Nucl J. O. Liljenzin, J Butterworth-Hein D. E. Vance: Rad ss: Nuclear Chen	. Rydberg: Radio nemann, 2002. diochemistry and	ochemistry and N	Nuclear Chemistr	y, 3rd edition,
Course languag	ge:				
Notes:					
<b>Course assessm</b> Total number of	nent f assessed studen	.ts: 51			
A	В	C	D	Е	FX
					17

Provides: RNDr. Andrea Morovská Turoňová, PhD., RNDr. František Kaľavský

**Date of last modification:** 25.03.2020

University: P. J. Šafá	rik University in Košice						
Faculty: Faculty of S	cience						
Course ID: ÚCHV/ Course name: Odborná prax DP/14							
Course type, scope a Course type: Practic Recommended cou Per week: Per stud Course method: pre	ce <b>rse-load (hours):</b> ly period: 2t esent						
Number of ECTS cr							
Recommended seme	ster/trimester of the cours	e: 1., 3.					
Course level: II.							
Prerequisities:							
Conditions for cours	se completion:						
Learning outcomes:							
Brief outline of the c	course:						
Recommended litera	ature:						
Course language:							
Notes:							
<b>Course assessment</b> Total number of asse	ssed students: 5						
	abs	n					
	100.0 0.0						
Provides: doc. RNDr	. Zuzana Vargová, Ph.D.						
Date of last modifica	ntion: 03.05.2015						
Approved: prof. RNI	Dr. Juraj Černák, DrSc.						

Faculty Facult		rsity in Košice			
i acuity. I acuit	y of Science				
Course ID: ÚC OS/03	HV/ Course 1	name: Organic syn	nthesis		
Recommende	Lecture / Practio d course-load ( 1 Per study per	ce hours):			
Number of EC	<b>TS credits:</b> 5				
Recommended	semester/trim	ester of the cours	e:		
Course level: II	-				
Prerequisities:					
Midterm exam. Presentation of Final written ex	am.	thesis.			
	become familia	ar with the most and application in	-		-
backbone using bonds. Synthes	analysis of org organometallic	ganic compounds compounds and e ecules. Functional	nolates. Reaction group manipula	is resulting in crea	tion of multiple
and substitutio molecules and	-		ar synthetic tee		sis of complex
molecules and r Recommended Carruthers W., University Pres	hatural products literature: Coldham I.: Mc s, 2005		Organic Synthesi	is, Fourth Edition	, Cambridge
molecules and mo	hatural products literature: Coldham I.: Mc s, 2005 .: Organic Synth	odern Methods of	Organic Synthesi	is, Fourth Edition	, Cambridge
molecules and r Recommended Carruthers W., University Pres 3. Hanson, J. R Course languag	hatural products literature: Coldham I.: Mc s, 2005 .: Organic Synth	odern Methods of	Organic Synthesi	is, Fourth Edition	, Cambridge
molecules and r Recommended Carruthers W., University Pres	hatural products literature: Coldham I.: Mo s, 2005 .: Organic Synth ge:	odern Methods of the	Organic Synthesi	is, Fourth Edition	, Cambridge
molecules and r Recommended Carruthers W., University Pres 3. Hanson, J. R Course languag Notes: Course assessm	hatural products literature: Coldham I.: Mo s, 2005 .: Organic Synth ge:	odern Methods of the	Organic Synthesi	is, Fourth Edition	, Cambridge
molecules and r Recommended Carruthers W., University Pres 3. Hanson, J. R Course languag Notes: Course assessn Total number o	hatural products literature: Coldham I.: Mc s, 2005 .: Organic Synth ge: nent f assessed stude	ents: 166	Organic Synthesi e Royal Society	is, Fourth Edition of Chemistry 200	, Cambridge 2.
molecules and r Recommended Carruthers W., University Pres 3. Hanson, J. R Course languag Notes: Course assessm Total number o A	hatural products literature: Coldham I.: Mo s, 2005 .: Organic Synth ge: nent f assessed stude B 30.12	ents: 166	Drganic Synthesi e Royal Society	is, Fourth Edition of Chemistry 200 E	, Cambridge 2. FX
molecules and r Recommended Carruthers W., University Pres 3. Hanson, J. R Course languag Notes: Course assessm Total number o A 53.01	hatural products literature: Coldham I.: Mo s, 2005 .: Organic Synth ge: hent f assessed stude B 30.12 r. Martin Walko	ents: 166 C 11.45 D, PhD.	Drganic Synthesi e Royal Society	is, Fourth Edition of Chemistry 200 E	, Cambridge 2. FX

University: P. J.	Šafárik Universi	ity in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> Dek. UPJŠ/PPZ/13	PF Course na on a Labou		Development ar	d Key Competer	nces for Success
Course type, sco Course type: Pr Recommended Per week: Per Course method	actice course-load (he study period: 1	ours):			
Number of ECT	S credits: 2				
Recommended s	emester/trimes	ter of the cours	se: 1., 3.		
Course level: II.					
Prerequisities:					
Conditions for condit	ourse completi	o <b>n:</b>			
Learning outcon	nes:				
Brief outline of t	he course:				
Recommended li	iterature:				
Course language	2:				
Notes:					
<b>Course assessme</b> Total number of		ts: 39			
A	В	С	D	Е	FX
100.0	0.0	0.0	0.0	0.0	0.0
Provides: RNDr.	Peter Stefányi,	PhD.			
Date of last mod	ification: 03.05	.2015			
Approved: prof.	RNDr. Juraj Če	rnák, DrSc.			

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
<b>Course ID:</b> ÚCHV/ FAK1a/07	Course name: Pharmacol	ogy I				
Course type, scope a Course type: Lectu Recommended cou Per week: 2 / 2 Per Course method: pro	re / Practice rse-load (hours): study period: 28 / 28					
Number of ECTS cr	redits: 4					
Recommended seme	ester/trimester of the cour	se: 1.				
Course level: II.						
Prerequisities: ÚCH	V/FMCH/04					
Conditions for cours	se completion:					
Learning outcomes:						
Brief outline of the o	course:					
Recommended litera	ature:					
Course language:						
Notes:						
<b>Course assessment</b> Total number of asse	ssed students: 12					
	abs	n				
	100.0 0.0					
Provides: prof. MVD	Dr. Ján Mojžiš, DrSc.					
Date of last modifica	ation: 03.05.2015					
Approved: prof. RNDr. Juraj Černák, DrSc.						

University: P. J. Ša	afárik Univers	ity in Košice			
Faculty: Faculty o	f Science				
<b>Course ID:</b> ÚCHV FAK1b/07	// Course na	me: Pharmacolo	gy II		
Course type, scop Course type: Lec Recommended c Per week: 2 / 2 P Course method:	eture / Practice ourse-load (h er study perio	ours):			
Number of ECTS	credits: 6				
Recommended se	mester/trimes	ster of the course	e: 4.		
Course level: II.					
Prerequisities: ÚC	CHV/FAK1a/0	7			
Conditions for co	urse completi	on:			
Learning outcome	es:				
Brief outline of th	e course:				
Recommended lit	erature:				
Course language:					
Notes:					
Course assessmen Total number of as	-	ts: 9			
A	В	С	D	Е	FX
0.0	11.11	33.33	11.11	44.44	0.0
Provides: prof. M	VDr. Ján Mojž	iš, DrSc.		·	
Date of last modif	ication: 03.05	5.2015			
Approved: prof. R	NDr. Juraj Če	rnák, DrSc.			

		COUR	SE INFORM	AATION LI	ETTER		
University: H	P. J. Šafárik	University i	n Košice				
Faculty: Fac	ulty of Scie	nce					
<b>Course ID:</b> UADP/03	ÚCHV/ C	ourse name:	Porous mate	erials and the	eir applicatio	ns	
Course type, Course type Recomment Per week: 2 Course met	e: Lecture / ded course 2 / 1 Per stu	Practice -load (hours idy period:	5):				
Number of <b>E</b>	CTS credi	its: 5					
Recommend	ed semeste	r/trimester	of the cours	e: 2.			
Course level	<b>:</b> I., II., III.						
Prerequisitie	es:						
<b>Conditions f</b> Written test i		1	d of the seme	ester.			
Learning ou To make the investigation area and pore	acquaintan To gen up	the students	with the me	thods used in			
Brief outline Terminology Methodology area and por advanced ma	and prine of adsorpt osity. Inorg	cipal terms tion at the ga ganic materia	s-solid interf lls (active ca	ace, liquid-se rbon, metal	olid interface oxides, zeol	e. Assessmen ites, clay mi	nt of surface nerals, new
Recommend 1. F. Rouque press, Londo 2. S. J. Gregg UK, 1982. 3. V. Zeleňák	rol, J. Rouc n, UK, 199 g, K.S.W. S	uerol, K. Sin 9 ing: Adsorpt	tion, surface	area and por	osity, Acader	mic Press, Lo	ondon,,
Course lang	uage:						
Notes:							
Course asses		d students: 8	7				
A	В	С	D	Е	FX	Ν	Р
78.16	10.34	2.3	0.0	0.0	0.0	0.0	9.2
Provides: pro	of. RNDr. V	/ladimír Zele	eňák, DrSc.			1	
		<b>n:</b> 03.05.201	5				

University: P. J. Š	afárik Univers	ity in Košice						
Faculty: Faculty of	of Science							
Course ID: KPPaPZ/PPZMg/1								
Course type, scop Course type: Lea Recommended o Per week: 1 / 2 F Course method:	cture / Practice course-load (h Per study perio	ours):						
Number of ECTS	credits: 4							
Recommended se	mester/trimes	ster of the cours	2:					
Course level: II.								
Prerequisities:								
Conditions for co	urse completi	on:						
Learning outcom	es:							
Brief outline of th	e course:							
Recommended lit	erature:			_				
Course language:								
Notes:								
<b>Course assessmer</b> Total number of a		ts: 226						
A	В	С	D	Е	FX			
19.47	25.22	25.66	13.27	15.93	0.44			
Provides: PhDr. A	nna Janovská,	PhD., Mgr. Luci	a Hricová, PhD.					
Date of last modi	fication: 07.03	.2018						
Approved: prof. F	RNDr. Juraj Če	rnák, DrSc.						

Uni	vers	ity:	P. J.	Šafár	ik Uni	versity	in Košice	
-	-	-		2.2				

Faculty: Faculty of Science

Course ID: ÚCHV/	<b>Course name:</b> Quantum Chemistry
KOC1/01	

Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 3 / 1 Per study period: 42 / 14

Course method: present

**Number of ECTS credits:** 5

**Recommended semester/trimester of the course:** 1.

Course level: II.

Prerequisities:

### **Conditions for course completion:**

Activity within practice will be evaluated. Two written tests will be realized in 7-th and 14-th week, resp. during the term of the course.

The examination will consist of written and verbal test. Continuous evaluation will be also taken into account.

#### Learning outcomes:

Students will intensify their knowledge in the field of valence-bond based on molecular orbital theory (MO) and self-reliant perform basic quantum chemical calculations (molecular geometry optimization, transition states, vibrational analysis, etc.).

#### Brief outline of the course:

Development of valence-bond theory. Time-independent Schrodinger equation. Basic approximations in molecular orbital valence-bond theory. Variant methods of calculation in the framework of molecular orbital valence-bond theory. Chemical reactivity. Potential energy hypersurfaces of molecules. Reaction coordinate. Calculation of the absolute and relative equilibrium and rate constants, resp. in gas phase. Solvatation energy calculation.

#### **Recommended literature:**

1. Jensen F.: Introduction to Computational Chemistry, Wiley, 2000.

- 2. Leach A. R.: Molecular Modelling, Addison Wesley Longman Ltd. 1998.
- 3. Náray-Szabó G., Surján P. R., Ángyán J. G.: Applied Quantum

Chemistry, Akadémia Kiadó, Budapest, 1987.

#### **Course language:**

slovak language and english language

#### Notes:

### Course assessment

Total number of assessed students: 32

А	В	С	D	Е	FX	
81.25	15.63	3.13	0.0	0.0	0.0	

Provides: RNDr. Ladislav Janovec, PhD.

**Date of last modification:** 03.05.2015

University: P. J. Šafárik University in Košice							
Faculty: Faculty of Science	Faculty: Faculty of Science						
Course ID: ÚTVŠ/ Course name: Seasio							
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 36s Course method: present							
Number of ECTS credits: 2							
Recommended semester/trimester of the	course:						
Course level: I., II.							
Prerequisities:							
<b>Conditions for course completion:</b> Conditions for course completion: Attendance							
Learning outcomes: Learning outcomes: Students will be provided an overview of possibilities how to spend leisure time in seaside conditions actively and their skills in work and communication with clients will be improved. Students will acquire practical experience in organising the cultural and art-oriented events, with the aim to improve the stay and to create positive experiences for visitors.							
(children, young people, elderly) 8. Application of seaside cultural and art-or	nding of lei	sure time for different age and social groups vities in leisure time					
Recommended literature:							
Course language:							
Notes:							
Course assessment Total number of assessed students: 42							
abs		n					
abs n 11.9 88.1							

Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.

**Date of last modification:** 15.03.2019

University: P. J. S	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚCH VKA/04	V/ Course na	me: Selected To	pics in Inorgani	c Chemistry	
Course type, sco Course type: Le Recommended Per week: 2 / 1 Course method	ecture / Practice course-load (h Per study perio	ours):			
Number of ECT	S credits: 5				
Recommended s	emester/trimes	ster of the cours	e: 3.		
Course level: II.					
Prerequisities:					
Conditions for co	ourse completi	on:			
<b>Learning outcom</b> To make the acqu		ual status of resea	arch in inorgani	c chemistry.	
ligands. Pentacoordinated Structure, spectra Hydrothermal syn Materials on the <b>Recommended li</b>	I and thermal p nthesis in inorg basis of inclusio	properties of cyan anic chemistry.	oargentates.		
<ol> <li>Creenwood, N</li> <li>Greenwood, N</li> <li>J. E. Huheey, F</li> <li>Reactivity (4th E</li> </ol>	.N., Earnshaw, E.A. Keiter, R.L	. Keiter: Inorgan	ic Chemistry: P	rinciples of Struc	
Course language					
Notes:					
<b>Course assessme</b> Total number of a		ts: 223			
A	В	С	D	Е	FX
44.39	26.91	17.04	7.17	4.48	0.0
Provides: RNDr. Juraj Černák, DrS doc. RNDr. Ivan I	c., doc. RNDr.	Zuzana Vargová,	Ph.D., prof. RN	NDr. Vladimír Ze	leňák, DrSc.,
Maľarová, PhD.		,	ij Kuenar, i iiD.,		a Ivialikova-

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of Science						
<b>Course ID:</b> ÚCHV/ SP1/14	Course ID: ÚCHV/ Course name: Semestral Project I P1/14					
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent					
Number of ECTS cr	edits: 4					
Recommended seme	ster/trimester of the cours	<b>e:</b> 1.				
Course level: II.						
Prerequisities:						
Conditions for cours	e completion:					
Learning outcomes:						
Brief outline of the c	Brief outline of the course:					
Recommended litera	iture:					
Course language:						
Notes:						
<b>Course assessment</b> Total number of asse	ssed students: 148					
	abs	n				
99.32 0.68						
Provides: RNDr. Rastislav Serbin, PhD., doc. RNDr. Mária Kožurková, CSc., prof. Dr. Yaroslav Bazel', DrSc., prof. RNDr. Jozef Gonda, DrSc., prof. RNDr. Katarína Györyová, DrSc., doc. RNDr. Ján Imrich, CSc., doc. RNDr. Miroslava Martinková, PhD., doc. RNDr. Erik Sedlák, PhD., RNDr. Nataša Tomášková, PhD., doc. RNDr. Viktor Víglaský, PhD., RNDr. Rastislav Varhač, PhD., RNDr. Danica Sabolová, PhD., RNDr. Jana Šandrejová, PhD., RNDr. Miroslav Almáši, PhD., doc. RNDr. Ivan Potočňák, PhD., prof. RNDr. Juraj Černák, DrSc.						
Date of last modifica	tion: 03.05.2015					
Annewade prof. DNDr. Jurgi Čarnák, DrSa						

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
<b>Course ID:</b> ÚCHV/ SP2/14	Course name: Semestral F	Project II			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present					
Number of ECTS cr					
	ster/trimester of the cours	e:			
Course level: II.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	nture:				
Course language:					
Notes:					
<b>Course assessment</b> Total number of asses	ssed students: 100				
	abs	n			
	100.0	0.0			
Andruch, DSc., prof. Sedlák, PhD., doc. RN PhD., RNDr. Monika PhD., prof. RNDr. Joz Györyová, DrSc., pro Ivan Potočňák, PhD., RNDr. Viktor Víglask	Ing. Marián Antalík, DrSc., NDr. Miroslava Martinková, Tvrdoňová, PhD., doc. RNI zef Gonda, DrSc., doc. Ing. f. RNDr. Vladimír Zeleňák, doc. RNDr. Katarína Reiffo	JDr. Mária Kožurková, CSc., prof. Mgr. Vasil prof. Dr. Yaroslav Bazel, DrSc., doc. RNDr. Erik PhD., doc. RNDr. Andrea Straková Fedorková, Dr. Mária Ganajová, CSc., RNDr. Martin Vavra, Viera Vojteková, PhD., prof. RNDr. Katarína DrSc., doc. RNDr. Ján Imrich, CSc., doc. RNDr. vá, PhD., RNDr. Nataša Tomášková, PhD., doc. olová, PhD., RNDr. Rastislav Varhač, PhD., doc. á, PhD.			
Date of last modifica	ntion: 03.05.2015				

	CU	UKSE INFURN	TATION LET I	EN	
University: P. J.	. Šafárik Univers	ity in Košice			
Faculty: Faculty	y of Science				
<b>Course ID:</b> ÚC NPC1a/00	HV/ Course na	me: Seminar fro	m Advanced Ino	organic Chemistr	у
Course type: I Recommended	d course-load (h er study period:	ours):			
Number of EC	<b>FS credits:</b> 1				
Recommended	semester/trimes	ster of the cours	e:		
Course level: II	-				
Prerequisities:					
Conditions for	course completi	on:			
<b>Learning outco</b> To make the acc		ual status of rese	arch in inorganic	chemistry.	
-	from inorganic	and coordination chemical information	•	y of the scientif	ic literature and
chemistry.	c papers and liter	ature concerning		-	-
Course languag	ge:				
Notes:					
Course assessm Total number of	ent f assessed studen	ts: 63			
А	В	С	D	E	FX
77.78	15.87	6.35	0.0	0.0	0.0
Györyová, DrSc RNDr. Zuzana V	., prof. RNDr. V /argová, Ph.D., d	PhD., prof. RND ladimír Zeleňák, oc. RNDr. Mária arová, PhD., doc	DrSc., doc. RNE Reháková, CSc.	Dr. Ivan Potočňál , RNDr. Mirosla	k, PhD., doc.
Date of last mo	dification: 03.05	5.2015			
Approved: prof	. RNDr. Juraj Če	rnák, DrSc.			
		,			

University: P. J. Šafárik University in Košice         Faculty: Faculty of Science         Course ID: ÚCHV/       Course name: Seminar from Advanced Inorganic Chemistry         NPC2/02       Course name: Seminar from Advanced Inorganic Chemistry         Course type, scope and the method:       Course type; Practice         Recommended course-load (hours):       Per week: 1 Per study period: 14         Course method: present       Number of ECTS credits: 1         Recommended semester/trimester of the course:       Course level: II.         Prerequisities:       Conditions for course completion:         Learning outcomes:       To make the acquaintance of actual status of research in inorganic chemistry.         Brief outline of the course:       Selected topics from inorganic and coordination chemistry. Study of the scientific literature and publications. Elaboration of the chemical information.
Course ID: ÚCHV/ NPC2/02       Course name: Seminar from Advanced Inorganic Chemistry         NPC2/02       Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 1 Per study period: 14 Course method: present         Number of ECTS credits: 1         Recommended semester/trimester of the course: Course level: II.         Prerequisities:         Conditions for course completion:         Learning outcomes: To make the acquaintance of actual status of research in inorganic chemistry.         Brief outline of the course: Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
NPC2/02       Course type, scope and the method:         Course type, scope and the method:       Course type: Practice         Recommended course-load (hours):       Per week: 1 Per study period: 14         Course method: present       Course method: present         Number of ECTS credits: 1       Recommended semester/trimester of the course:         Course level: II.       Prerequisities:         Conditions for course completion:       Learning outcomes:         To make the acquaintance of actual status of research in inorganic chemistry.         Brief outline of the course:         Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
Course type: Practice Recommended course-load (hours): Per week: 1 Per study period: 14 Course method: present Number of ECTS credits: 1 Recommended semester/trimester of the course: Course level: II. Prerequisities: Conditions for course completion: Learning outcomes: To make the acquaintance of actual status of research in inorganic chemistry. Brief outline of the course: Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
Recommended semester/trimester of the course:         Course level: II.         Prerequisities:         Conditions for course completion:         Learning outcomes:         To make the acquaintance of actual status of research in inorganic chemistry.         Brief outline of the course:         Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
Course level: II.         Prerequisities:         Conditions for course completion:         Learning outcomes:         To make the acquaintance of actual status of research in inorganic chemistry.         Brief outline of the course:         Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
Prerequisities:         Conditions for course completion:         Learning outcomes:         To make the acquaintance of actual status of research in inorganic chemistry.         Brief outline of the course:         Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
Conditions for course completion: Learning outcomes: To make the acquaintance of actual status of research in inorganic chemistry. Brief outline of the course: Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
<ul> <li>Learning outcomes: To make the acquaintance of actual status of research in inorganic chemistry.</li> <li>Brief outline of the course: Selected topics from inorganic and coordination chemistry. Study of the scientific literature and</li> </ul>
To make the acquaintance of actual status of research in inorganic chemistry. Brief outline of the course: Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
Selected topics from inorganic and coordination chemistry. Study of the scientific literature and
puoneauons. Liauorauon of une enernicai information.
Recommended literature: Actual scientific papers and literature concerning the actual research topics in inorganic chemistry. Shriver D. F. Shriver, Atkins P. W.: Inorganic Chemistry. Oxford University Press, Oxford 1999.
Course language:
Notes:
Course assessment Total number of assessed students: 70
A B C D E FX
88.57 7.14 4.29 0.0 0.0 0.0
<b>Provides:</b> RNDr. Martin Vavra, PhD., prof. RNDr. Katarína Györyová, DrSc., prof. RNDr. Juraj Černák, DrSc., doc. RNDr. Zuzana Vargová, Ph.D., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Juraj Kuchár, PhD., RNDr. Miroslav Almáši, PhD., RNDr. Miroslava Matiková-Maľarová, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Juraj Černák, DrSc.

			ATION LET I		
University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚCH SDP/03	IV/ Course na	me: Seminar to	Diploma Thesis		
Course type, sco Course type: Pr Recommended Per week: 2 Per Course method	ractice course-load (h r study period:	ours):			
Number of ECT	S credits: 2				
Recommended s	emester/trimes	ster of the cours	e: 4.		
Course level: II.					
Prerequisities:					
<b>Conditions for co</b> Consultations, di Assessment of st	scussions and p	resentations.	r by supervisor.		
Learning outcom Teach the studen participate in scie	it to prepare pro			-	
<b>Brief outline of t</b> Presentation of 1 writing of scienti	literature inform	nation and own	experimental re	sults, scientific d	discussions and
Recommended li According to the		a work.			
Course language	2:				
Notes:					
<b>Course assessme</b> Total number of a		ts: 302			
Α	В	С	D	Е	FX
96.03	2.32	0.99	0.33	0.0	0.33
Provides: RNDr. Mária Kožurková prof. Dr. Yaroslav DrSc., doc. RND Gondová, CSc., d Mgr. Vasil' Andru Maľarová, PhD., Lívia Kocúrová, I	i, CSc., prof. RN 7 Bazel', DrSc., r. Zuzana Vargo loc. RNDr. Kata 1ch, DSc., prof. doc. RNDr. Jura PhD.	NDr. Juraj Černál prof. RNDr. And vá, Ph.D., doc. R urína Reiffová, Pl RNDr. Renáta O	k, DrSc., prof. Rl rej Oriňak, PhD. NDr. Ivan Potoč D., doc. RNDr. riňaková, DrSc.,	NDr. Katarína Gy , prof. RNDr. Vla ňák, PhD., doc. I Mária Reháková RNDr. Miroslava	vöryová, DrSc., adimír Zeleňák, RNDr. Taťána , CSc., prof. a Matiková-

**Date of last modification:** 20.09.2017

University: P. J. Šafá	rik Universit	ty in Košice				
Faculty: Faculty of S	cience					
<b>Course ID:</b> KPPaPZ/SPVKE/07	<b>Course nat</b> Situations	ne: Social-Psychological Tra	aining of Coping with Critical Life			
Course type, scope a Course type: Practic Recommended cou Per week: 2 Per stu Course method: pre	ce rse-load (ho dy period: 2	urs):				
Number of ECTS cr	edits: 2					
Recommended seme	ster/trimest	er of the course: 2.				
Course level: II.						
Prerequisities:						
Conditions for cours	e completio	n:				
Learning outcomes:						
Brief outline of the c	ourse:					
Recommended litera	iture:					
Course language:						
Notes:						
<b>Course assessment</b> Total number of asse	ssed students	s: 126				
abs		n	Z			
97.62	97.62 2.38 0.0					
Provides: Mgr. Ondr	ej Kalina, Ph	D.				
Date of last modifica	tion: 18.03.	2019				
Approved: prof. RNI	Dr. Juraj Čer	nák, DrSc.				

Faculty Facul					
i acuity. i acui	ty of Science				
Course ID: ÚC CTF1/00	CHV/ Course r	name: Solid State	Chemistry		
Course type: Recommende	cope and the ma Lecture / Practic ed course-load ( 1 Per study per od: present	ce hours):			
Number of EC					
Recommended	l semester/trim	ester of the cours	<b>e:</b> 1., 3.		
Course level: I	Ί.				
Prerequisities:					
Conditions for	· course comple	tion:			
Learning outc	omes:				
Historical deve General fundat crystals, diffus surface oxidati	elopment of soli mentals and imp sion in solids, N	reaction in the soli id state chemistry portant properties Non-catalysed reac veen solids, chemi	and its signific of solids: ideal a ctions involving	and real crystals,	deformation o
quenching, dop	reactivity of sol	ids. Generation or mechanical activation	f defects by var		treatment: rapi
quenching, dop Recommended 1. West A. R.:	reactivity of sol ping, irradiation, I literature: Basic Solid State	ids. Generation of	f defects by var ation and low ter ley, Chichester,	nperature decomp	treatment: rapi
quenching, dop Recommended 1. West A. R.: 2. Tkáčová, K.	reactivity of sol ping, irradiation, I literature: Basic Solid State : Mechanical Ac	ids. Generation of mechanical activate e Chemistry, J. Wi	f defects by var ation and low ter ley, Chichester,	nperature decomp	treatment: rapi
quenching, dop Recommended 1. West A. R.: 2. Tkáčová, K. Course langua	reactivity of sol ping, irradiation, I literature: Basic Solid State : Mechanical Ac	ids. Generation of mechanical activate e Chemistry, J. Wi	f defects by var ation and low ter ley, Chichester,	nperature decomp	treatment: rapi
quenching, dop Recommended 1. West A. R.: 2. Tkáčová, K. Course langua Notes: Course assessi	reactivity of sol ping, irradiation, I literature: Basic Solid State : Mechanical Ac	ids. Generation of mechanical activa e Chemistry, J. Wi ctivation of Minera	f defects by var ation and low ter ley, Chichester,	nperature decomp	treatment: rapi
quenching, dop Recommended 1. West A. R.: 2. Tkáčová, K. Course langua Notes: Course assessi	reactivity of sol ping, irradiation, I literature: Basic Solid State : Mechanical Ac oge: ment	ids. Generation of mechanical activa e Chemistry, J. Wi ctivation of Minera	f defects by var ation and low ter ley, Chichester,	nperature decomp	treatment: rapi
quenching, dop Recommended 1. West A. R.: 2. Tkáčová, K. Course langua Notes: Course assessi Total number of	reactivity of sol ping, irradiation, I literature: Basic Solid State : Mechanical Ac ge: ment of assessed stude	ids. Generation of mechanical activa e Chemistry, J. Wi etivation of Minera	f defects by var ation and low ter ley, Chichester, als. Elsevier, Am	nperature decomp 1999. hsterdam, 1989.	treatment: rapid
quenching, dop Recommended 1. West A. R.: 2. Tkáčová, K. Course langua Notes: Course assessi Total number of A 54.93	reactivity of sol ping, irradiation, I literature: Basic Solid State : Mechanical Ac oge: ment of assessed stude B	e Chemistry, J. Wi etivation of Minera ents: 71 C 14.08	f defects by var ation and low ter ley, Chichester, als. Elsevier, Am	E	FX
quenching, dop Recommended 1. West A. R.: 2. Tkáčová, K. Course langua Notes: Course assessi Total number of A 54.93 Provides: RNI	reactivity of sol ping, irradiation, I literature: Basic Solid State : Mechanical Ac age: ment of assessed stude B 28.17	ids. Generation of mechanical activa e Chemistry, J. Wi etivation of Minera ents: 71 C 14.08 , PhD.	f defects by var ation and low ter ley, Chichester, als. Elsevier, Am	E	FX

University: P. J.	. Šafárik Univers	ity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚC NPC3/02	HV/ Course na	me: Special Sen	ninar		
Course type: I Recommended	l course-load (h er study period:	ours):			
Number of EC	<b>FS credits:</b> 2				
Recommended	semester/trimes	ter of the cours	e:		
Course level: II					
Prerequisities:					
Conditions for	course completi	on:			
Learning outco	mes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	ge:				
Notes:					
Course assessm Total number of	ent f assessed studen	ts: 25			
А	В	С	D	E	FX
76.0	20.0	0.0	4.0	0.0	0.0
Černák, DrSc., c RNDr. Ivan Poto	loc. RNDr. Zuzar	na Vargová, Ph.E . RNDr. Juraj Ku	D., prof. RNDr. V	yová, DrSc., prof /ladimír Zeleňák, Dr. Miroslav Alm	DrSc., doc.
Date of last mo	dification:				
Approved: prof	RNDr. Juraj Če	rnák, DrSc.			

University: P. J. Šafá	irik University in Košice
Faculty: Faculty of S	Science
<b>Course ID:</b> ÚTVŠ/ TVa/11	Course name: Sports Activities I.
Course type, scope a Course type: Practi Recommended cou Per week: 2 Per stu Course method: pr	ce rse-load (hours): ıdy period: 28
Number of ECTS ci	redits: 2
Recommended seme	ester/trimester of the course: 1.
Course level: I., I.II.	, II.
Prerequisities:	
<b>Conditions for cour</b> Conditions for cours Min. 80% of active p	
Learning outcomes: Learning outcomes: Increasing physical	condition and performance within individual sports. Strengthening the

relationship of students to the selected sports activity and its continual improvement.

### **Brief outline of the course:**

Brief outline of the course:

Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball.

In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness. In addition to these sports, the Institute offers for those who are interested winter and summer

physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

### **Recommended literature:**

### **Course language:**

Notes:

Course assessment Total number of assessed students: 12947									
abs abs-A abs-B abs-C abs-D abs-E n neabs									
88.64 0.06 0.0 0.0 0.0 0.03 7.22 4.05									
<b>Provides:</b> doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.									
Date of last modification: 18.03.2019									
Approved:	prof. RNDr.	Juraj Černák	x, DrSc.						

University: P. J. Šafá	árik University in Košice	
Faculty: Faculty of S	Science	
<b>Course ID:</b> ÚTVŠ/ TVb/11	Course name: Sports Activities II.	
Course type, scope a Course type: Practi Recommended cou Per week: 2 Per stu Course method: pro	ice 1rse-load (hours): udy period: 28	
Number of ECTS cr	redits: 2	
Recommended seme	ester/trimester of the course: 2.	
Course level: I., I.II.,	, II.	
<b>Dronoquisitios</b> .		

Prerequisities:

### **Conditions for course completion:**

Conditions for course completion:

Final assessment and active participation in classes - min. 75%.

#### Learning outcomes:

Learning outcomes:

Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.

### Brief outline of the course:

Brief outline of the course:

Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball.

In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness.

In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

#### **Recommended literature:**

### **Course language:**

Notes:

Course asso Total numb		d students: 1	1186				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.58	0.55	0.02 0.0 0.0 0.05 9.99				9.99	3.8
PhD., Mgr. 1 Stanislav Vo	Peter Bakalá okál, DrSc., I	r, PhD., Mgr	. Agata Hort Kaško, Mgr	oacz, PhD., N Aurel Zelko,	á, PhD., doc. ⁄Igr. Marek V PhD., Mgr. I	alanský, pro	f. RNDr.
Date of last	modificatio	on: 18.03.201	19				
Approved:	prof. RNDr.	Juraj Černák	, DrSc.				

University:	P. J. Šafárik	. University i	n Košice				
Faculty: Fa	culty of Scie	ence					
<b>Course ID:</b> TVc/11	ÚTVŠ/ C	course name:	Sports Acti	vities III.			
Course typ Recommen Per week: Course me	be: Practice ided course 2 Per study ethod: prese						
Number of							
		er/trimester	of the cours	<b>e:</b> 3.			
Course leve	<b>l:</b> I., I.II., II	•					
Prerequisiti	es:						
Conditions	for course	completion:					
Learning ou	utcomes:						
Brief outlin	e of the cou	irse:					
Recommen	ded literatu	ire:					
Course lang	guage:						
Notes:							
Course asse Total numb		ed students: 7	741				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
90.03	0.04	0.01	0.0	0.0	0.03	4.04	5.85
PhD., Mgr. I Stanislav Vo	Peter Bakalá kál, DrSc.,	an Šulc, CSc ár, PhD., Mgr Mgr. Dávid K aedDr. Jana P	. Agata Hort Kaško, Mgr. J	oacz, PhD., N Aurel Zelko,	/Igr. Marek V	alanský, pro	f. RNDr.
Date of last	modificatio	on: 03.05.201	15				
Approved:	prof. RNDr.	Juraj Černák	, DrSc.				

University:	P. J. Šafári	k University i	n Košice				
Faculty: Fa	culty of Sci	ence					
<b>Course ID:</b> TVd/11	ÚTVŠ/	Course name:	: Sports Acti	vities IV.			
Course ty Recomme Per week:	pe: Practice nded cours	e-load (hours y period: 28					
Number of	ECTS crea	lits: 2					
Recommen	ded semest	er/trimester	of the cours	se: 4.			
Course leve	el: I., I.II., I	[					
Prerequisit	ies:						
Conditions	for course	completion:					
Learning o	utcomes:						
Brief outlir	ne of the co	urse:					
Recommen	ded literat	ure:					
Course lan	guage:						
Notes:							
Course ass Total numb		ed students: 5	086				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.19	0.29	0.04	0.0	0.0	0.0	6.78	7.69
doc. PaedD Stanislav Vo	r. Ivan Uher okál, DrSc.,	van Šulc, CSc , PhD., Mgr. 4 Mgr. Lucia K hD., Mgr. Ma	Agata Horba Iršňáková, P	cz, PhD., Mg hD., Mgr. Dá	gr. Marek Va ivid Kaško, N	lanský, prof. Mgr. Aurel Z	RNDr.
Date of last	t modificati	on: 03.05.20	15				
Approved:	prof. RND	. Juraj Černák	, DrSc.				

		sity in Košice			
Faculty: Faculty	y of Science				
Course ID: ÚCI SAZ1/15	HV/ Course na	ame: Stereochem	istry of Inorgani	c Compounds	
	Practice I course-load (h er study period:	ours):			
Number of ECT	<b>FS credits:</b> 3				
Recommended	semester/trime	ster of the cours	<b>e:</b> 1., 3.		
Course level: II	•				
Prerequisities:					
Conditions for	course complet	ion:			
Learning outco	mes:				
Brief outline of	the course.				
Principles of s	nents of symme stereochemistry,	etry, point groups VSEPR, config shells with 4–12	uration of mole	ecules, polyhed	ra, regular and
Symmetry, elen Principles of s semiregular poly system. <b>Recommended</b> Kepert, D. L.: In	nents of symme stereochemistry, yhedra. Valence literature: norganic Stereoc	VSEPR, config	er-Verlag, Berlin	ecules, polyhedrometry of molecu	ra, regular and
Symmetry, elen Principles of s semiregular poly system. <b>Recommended</b> Kepert, D. L.: In	nents of symme stereochemistry, yhedra. Valence literature: norganic Stereoc Symmetry and S	VSEPR, config shells with $4-12$ chemistry. Spring	er-Verlag, Berlin	ecules, polyhedrometry of molecu	ra, regular and
Symmetry, elen Principles of s semiregular poly system. <b>Recommended</b> Kepert, D. L.: In Kettle, S. F. A.:	nents of symme stereochemistry, yhedra. Valence literature: norganic Stereoc Symmetry and S	VSEPR, config shells with $4-12$ chemistry. Spring	er-Verlag, Berlin	ecules, polyhedrometry of molecu	ra, regular and
Symmetry, elem Principles of s semiregular poly system. <b>Recommended</b> Kepert, D. L.: In Kettle, S. F. A.: <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b>	nents of symme stereochemistry, yhedra. Valence s literature: norganic Stereoc Symmetry and s ge:	VSEPR, config shells with 4–12 chemistry. Spring Structure. John W	er-Verlag, Berlin	ecules, polyhedrometry of molecu	ra, regular and
Symmetry, elem Principles of s semiregular poly system. <b>Recommended</b> Kepert, D. L.: In Kettle, S. F. A.: <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b>	nents of symme stereochemistry, yhedra. Valence : literature: norganic Stereoc Symmetry and S ge:	VSEPR, config shells with 4–12 chemistry. Spring Structure. John W	er-Verlag, Berlin	ecules, polyhedrometry of molecu	ra, regular and
Symmetry, elem Principles of s semiregular poly system. <b>Recommended</b> Kepert, D. L.: In Kettle, S. F. A.: <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b> Total number of	nents of symme stereochemistry, yhedra. Valence : literature: norganic Stereoc Symmetry and S ge: nent f assessed studer	VSEPR, config shells with 4–12 chemistry. Spring Structure. John W	uration of mole electron pairs, geo er-Verlag, Berlin /iley & Sons, Ne	ecules, polyhedrometry of molecu , 1982. w York, 1985.	ra, regular and iles and periodic
Symmetry, elem Principles of s semiregular poly system. <b>Recommended</b> Kepert, D. L.: In Kettle, S. F. A.: <b>Course languag</b> <b>Notes:</b> <b>Course assessm</b> Total number of A	nents of symme stereochemistry, yhedra. Valence s literature: norganic Stereoc Symmetry and S ge: nent f assessed studer B 16.67	VSEPR, config shells with 4–12 chemistry. Spring Structure. John W	uration of mole electron pairs, geo er-Verlag, Berlin /iley & Sons, Ne D	E	ra, regular and iles and periodic
Symmetry, elem Principles of s semiregular poly system. Recommended Kepert, D. L.: In Kettle, S. F. A.: Course languag Notes: Course assessm Total number of A 50.0	nents of symme stereochemistry, yhedra. Valence s literature: norganic Stereoc Symmetry and S ge: nent f assessed studer B 16.67 RNDr. Vladimír	VSEPR, config shells with 4–12 chemistry. Spring Structure. John W nts: 18 C 22.22 Zeleňák, DrSc.	uration of mole electron pairs, geo er-Verlag, Berlin /iley & Sons, Ne D	E	ra, regular and iles and periodic

University: P.	J. Šafárik	University in Košice
University. 1.	J. Dululik	

Faculty: Faculty of Science

**Course ID:** ÚCHV/ **Course name:** Structure Analysis STA1/03

Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours):

Per week: 2 / 2 Per study period: 28 / 28

Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

### **Conditions for course completion:**

2 written tests.

30%

The final examination is in a written form. The final mark is based on the results from current and final tests.

### Learning outcomes:

Students get an overview about the symmetry at the micro- and macrostructure level and about diffraction methods used for the crystal structure determination and they will learn how to use the results of the crystal structure analysis in their own work.

### Brief outline of the course:

Macrostructure and microstructure symmetry, individual work with space groups. Theoretical basis of the diffraction experiment. Practical aspects of crystal structure solution. Processing the results of structural analysis. Theoretical basis, practical aspects and possibilities of X-ray powder diffraction analysis, its use at work of a chemist.

#### **Recommended literature:**

Massa, W.: Crystal structure determination, 2nd edition. Springer 2004.

Clegg, W. et al.: Crystal structure analysis. Principles and practice. Oxford University Press 2009. Hahn, T.: International tables for crystallography, Vol. A. Kluwer Academic Publishers 2002. Stout, G.H. & Jensen, L.H.: X-ray Structure Determination. Macmillan Publishing Co., Inc. 1968. Klug, H.P. & Alexander, L.E.: X-Ray diffraction procedures for polycrystalline and amorphous materials. John Wiley & Sons, Inc. 1970.

### **Course language:**

Slovak and English

Notes:

Course assessm Total number of	nent f assessed studen	ts: 115			
А	В	С	D	Е	FX
26.96	16.52	26.96	20.0	8.7	0.87
Provides: doc. 1	Provides: doc. RNDr. Ivan Potočňák, PhD.				
Date of last mo	dification: 03.05	5.2015			
Approved: prof	f. RNDr. Juraj Če	rnák, DrSc.			

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚCH SVK1/00	IV/ Course na	me: Students So	cientific Conferen	nce (Presentation	)
Course type, sco Course type: Recommended Per week: Per Course method	course-load (he study period: l: present				
Number of ECT					
Recommended s		ter of the cours	e: 2.		
Course level: II.					
Prerequisities:					
Conditions for c	ourse completi	on:			
Learning outcom	nes:				
Brief outline of	the course:				
Recommended I	iterature:				
Course language	e:				
Notes:					
Course assessme Total number of		ts: 238			
A	В	С	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
Provides:					
Date of last mod	lification: 03.05	.2015			
Approved: prof.	RNDr. Juraj Če	rnák, DrSc.			

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
<b>Course ID:</b> ÚTVŠ/ LKSp/13	Course name: Summer Course-Rafting of TISA River
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	ce rse-load (hours): ly period: 36s
Number of ECTS cr	edits: 2
Recommended seme	ster/trimester of the course:
Course level: I., II.	
Prerequisities:	
<b>Conditions for course</b> Conditions for course Attendance Final assessment: Ra	•
Learning outcomes: Learning outcomes: Students have knowled	edge of rafts (canoe) and their control on waterway.
5. Canoe lifting and c	burse: ficulty of waterways fting ning using an empty canoe carrying n the water without a shore contact be out of the water
Recommended litera	iture:
Course language:	
Notes:	

Course assessment Total number of assessed students: 151	
abs	n
45.03	54.97
Provides: Mgr. Peter Bakalár, PhD.	
Date of last modification: 18.03.2019	
Approved: prof. RNDr. Juraj Černák, DrSc.	

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚCI SMCH/03	HV/ Course na	me: Supramolec	ular chemistry		
Recommended	ecture / Practice course-load (h Per study perio	ours):			
Number of ECT	S credits: 4				
Recommended	semester/trimes	ster of the course	e: 1., 3.		
Course level: II.					
Prerequisities:					
<b>Conditions for o</b> Presentation of a Final written exa	a chosen topic.	on:			
Learning outco	mes:				
Brief outline of	the course:				
2. J.W.Steed and	outs can be found J.L.Atwood, Su	d at http://lms.up pramolecular ch mistry: an introdu	emistry, Wiley :	Chichester, 2000.	
Course languag	e:				
Notes:					
Course assessm Total number of	ent `assessed studen	ts: 67			
А	В	С	D	E	FX
62.69	22.39	11.94	1.49	1.49	0.0
Provides: RND	. Martin Walko,	PhD.		· · · · · ·	
Date of last mod	dification: 03.05	5.2015			
Approved: prof.	RNDr. Juraj Če	rnák, DrSc.			

	rik University in Košice
Faculty: Faculty of S	cience
<b>Course ID:</b> ÚTVŠ/ KP/12	Course name: Survival Course
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	ce rse-load (hours): ly period: 36s
Number of ECTS cr	edits: 2
Recommended seme	ster/trimester of the course:
Course level: I., II.	
Prerequisities:	
<b>Conditions for course</b> Conditions for course Attendance Final assessment: con	-
Learning outcomes: Learning outcomes:	
conditions as they wi and demanding situa	miliarized with principles of safe stay and movement in extreme natural ill obtain theoretical knowledge and practical skills to solve the extraordinary ations connected with survival and minimization of damage to health. The n work and students will learn how to manage and face the situations that of obstacles.
conditions as they will and demanding situal course develops team require overcoming of <b>Brief outline of the c</b> Brief outline of the c Lectures: 1. Principles of behav 2. Preparation and lea 3. Objective and subj 4. Principles of hygie Exercises: 1. Movement in terra	Il obtain theoretical knowledge and practical skills to solve the extraordinary ations connected with survival and minimization of damage to health. The n work and students will learn how to manage and face the situations that of obstacles. <b>Fourse:</b> ourse: viour and safety for movement and stay in unknown mountains adership of tour fective danger in mountains ene and prevention of damage to health in extreme conditions in, orientation and navigation in terrain (compasses, GPS) provised overnight stay
<ul> <li>conditions as they will and demanding situal course develops team require overcoming of Brief outline of the construction of the construc</li></ul>	Ill obtain theoretical knowledge and practical skills to solve the extraordinary attons connected with survival and minimization of damage to health. The n work and students will learn how to manage and face the situations that of obstacles.
conditions as they will and demanding situal course develops team require overcoming of <b>Brief outline of the c</b> Brief outline of the c Lectures: 1. Principles of behave 2. Preparation and lea 3. Objective and subj 4. Principles of hygie Exercises: 1. Movement in terra 2. Preparation of imp 3. Water treatment ar	Ill obtain theoretical knowledge and practical skills to solve the extraordinary attons connected with survival and minimization of damage to health. The n work and students will learn how to manage and face the situations that of obstacles.

Course assessment Total number of assessed students: 392				
abs	n			
44.39	55.61			
Provides: Mgr. Marek Valanský, MUDr. Peter Dombrovský				
Date of last modification: 15.03.2019				
Approved: prof. RNDr. Juraj Černák, DrSc.				

University: P. J. Š	afárik Univers	ity in Košice				
Faculty: Faculty of	of Science					
Course ID: KPPaPZ/UPR/03	Course na	Course name: The Art of Aiding by Verbal Exchange				
Course type, scop Course type: Pra Recommended o Per week: 2 Per Course method:	actice course-load (he study period:	ours):				
Number of ECTS	S credits: 2					
Recommended se	emester/trimes	ter of the cours	e: 4.			
Course level: II.						
Prerequisities:						
Conditions for co	ourse completi	o <b>n:</b>				
Learning outcom	es:					
Brief outline of th	ne course:					
Recommended lit	terature:					
Course languages	:					
Notes:						
<b>Course assessmen</b> Total number of a		ts: 49				
A	В	С	D	Е	FX	
85.71	4.08	2.04	2.04	2.04	4.08	
Provides: Mgr. O	ndrej Kalina, P	hD.				
Date of last modi	fication: 18.03	.2019				
Approved: prof. I	RNDr. Juraj Če	rnák, DrSc.				

	P. J. Safari	k University I	n Košice				
Faculty: Fa	aculty of Sci	ence					
<b>Course ID</b> TA1/03	ourse ID: ÚCHV/ Course name: Thermal Analysis						
Course ty Recomme Per week:	pe: Lecture ended cours	e-load (hours andy period: 2	5):				
Number of	ECTS crea	lits: 5					
Recommer	nded semest	er/trimester	of the cours	e: 2.			
Course lev	el: II.						
Prerequisit	ties:						
Conditions	for course	completion:					
techniques compounds Brief outlin Introductio thermal ar reflectance	, the use of s and reaction ne of the compon, experiment nalysis, there spectroscop		ytic methods nalytical tech techniques, f thermoanal	niques (ther thermodilato ytic methods	mogravimet mogravimet ometric anal	ric analysis, lysis, high frization of in	and organi differentia temperatur
organic con	mpounds, m	aterials and pl		al substances.		netics.	
Recomment Wendlandt Schultze, I	ded literation, W. W.: The D.: Different Dynamische	1	s of Analysis yse, VEB De	s, 2. vydanie, eutsch Verlag	New York, Wissenscha	1985. Iften, Berlin,	1969.
Recomment Wendlandt Schultze, I Heide, K.:	ded literation, W. W.: The D.: Different Dynamische 079.	ure: ermal Method ialthermoanal	s of Analysis yse, VEB De	s, 2. vydanie, eutsch Verlag	New York, Wissenscha	1985. Iften, Berlin,	1969.
Recommen Wendlandt Schultze, I Heide, K.: Leipzig, 19	ded literation, W. W.: The D.: Different Dynamische 079.	ure: ermal Method ialthermoanal	s of Analysis yse, VEB De	s, 2. vydanie, eutsch Verlag	New York, Wissenscha	1985. Iften, Berlin,	1969.
Recommen Wendlandt Schultze, I Heide, K.: Leipzig, 19 Course lan Notes: Course ass	nded literati , W. W.: The D.: Different Dynamische 079. guage: essment	ure: ermal Method ialthermoanal	s of Analysis yse, VEB De Analysenmet	s, 2. vydanie, eutsch Verlag	New York, Wissenscha	1985. Iften, Berlin,	1969.
Recommen Wendlandt Schultze, I Heide, K.: Leipzig, 19 Course lan Notes: Course ass	nded literati , W. W.: The D.: Different Dynamische 079. guage: essment	ure: ermal Method ialthermoanal e thermische A	s of Analysis yse, VEB De Analysenmet	s, 2. vydanie, eutsch Verlag	New York, Wissenscha	1985. Iften, Berlin,	1969.
Recommen Wendlandt Schultze, I Heide, K.: Leipzig, 19 Course lan Notes: Course ass Total numb	nded literati , W. W.: The D.: Different Dynamische 079. guage: essment per of assess	ed students: 6	s of Analysis yse, VEB Do Analysenmet	s, 2. vydanie, eutsch Verlag hoden, VEB	New York, Wissenscha Deutsch Ver	1985. Iften, Berlin, lag Wissense	1969. chaften,
Recommen Wendlandt Schultze, I Heide, K.: Leipzig, 19 Course lan Notes: Course ass Total numb A 53.85	aded literation, W. W.: The Dynamischer Dynamischer Dynamischer Dynamischer Dynamischer of assessent Der of assessent Brand 20.0	ed students: 6	s of Analysis yse, VEB De Analysenmet 5 5 1.54	s, 2. vydanie, eutsch Verlag hoden, VEB	New York, Wissenscha Deutsch Ver	1985. Iften, Berlin, lag Wissense	1969. chaften, P
Recommen Wendlandt Schultze, I Heide, K.: Leipzig, 19 Course lan Notes: Course ass Total numb A 53.85 Provides: p	aded literation, W. W.: The Dynamischer Dynamischer Dynamischer Dynamischer Dynamischer of assessen B 20.0 prof. RNDr.	ed students: 6	s of Analysis yse, VEB De Analysenmet 55 D 1.54 eňák, DrSc.	s, 2. vydanie, eutsch Verlag hoden, VEB	New York, Wissenscha Deutsch Ver	1985. Iften, Berlin, lag Wissense	1969. chaften, P

University: P. J. Ša	fárik Univers	ity in Košice				
Faculty: Faculty of	Science					
Course ID: ÚCHV/ VES/03	ÚCHV/ Course name: Vibrational and electronic spectroscopy					
Course type, scope Course type: Lect Recommended co Per week: 2 / 1 Pe Course method: p	ure / Practice urse-load (h r study perio resent	ours):				
Number of ECTS						
Recommended sen	nester/trimes	ter of the cours	e: 2.			
Course level: II.						
Prerequisities:						
Conditions for cou	rse completi	on:				
Learning outcome	5:					
Brief outline of the	course:					
<b>Recommended lite</b>	rature:					
Course language:						
Notes:						
<b>Course assessment</b> Total number of ass		ts: 71				
А	В	С	D	Е	FX	
60.56	15.49	11.27	7.04	4.23	1.41	
Provides: doc. RNI	Dr. Juraj Kucl	nár, PhD.			1	
Date of last modifi	cation: 03.05	.2015				
Approved: prof. RI	NDr. Juraj Če	rnák, DrSc.				

University: P. J. Šafá	nrik University in Košice		
Faculty: Faculty of S	Science		
Course ID: ÚTVŠ/ Course name: Winter Ski Training Course ZKLS//13			
Course type, scope a Course type: Practi Recommended cou Per week: 36 Per s Course method: pr	ce rse-load (hours): tudy period: 504		
Number of ECTS ci	redits: 2		
Recommended seme	ester/trimester of the cours	e:	
Course level: I., II.			
Prerequisities:			
Conditions for cour	se completion:		
Learning outcomes:			
Brief outline of the	course:		
Recommended liter	ature:		
Course language:			
Notes:			
<b>Course assessment</b> Total number of asse	essed students: 97		
	abs	n	
32.99 67.01			
Provides: doc. PhDr.	Ivan Šulc, CSc., Mgr. Mare	k Valanský	
Date of last modific	ation: 03.05.2015		
Approved: prof. RN	Dr. Juraj Černák, DrSc.		